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MEDICAL JOURNAL OF AUSTRALIA

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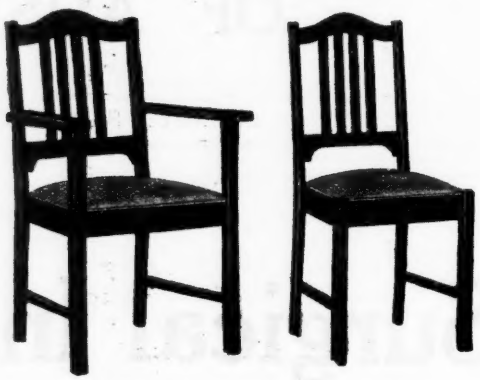

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Table of Contents

ORIGINAL ARTICLES—	PAGE.
"Urethral Gonorrhœa in the Male and Pregnancy: Report of Three Cases Presenting an Unusual Feature," by P. FIASCHI, O.B.E., M.D., D.D.S., M.R.C.S., L.R.C.P.	225
"National Insurance in Australia as Affecting the the Medical Profession,' by J. NEWMAN MORRIS, M.B., Ch.M.	227
"The Blood Urea and Nitrogen Output of Australian Students," by HENRY PRIESTLEY, M.D., Ch.M., B.Sc. and ELLEN M. HINDMARSH, B.Sc.	234
REPORTS OF CASES—	
"General Œdema of the Fœtus," by W. M. A. FLETCHER, M.B., Ch.M.	235
REVIEWS—	
Some Surgical Essays	236
Orthopædic Surgery	237
The Training of Obstetric Nurses	237
Physiological Tests and Estimations	237
Clinical Notes for Medical Practitioners	238
Clinical Pathology and Bacteriology	238
The Sexual Problems of Marriage	238
Hygiene and Public Health	238
LEADING ARTICLES—	
The Mathison Lecture	239
The British Medical Journal	240
CURRENT COMMENT—	**PAGE.**
Osteo-Arthritis and Rheumatoid Arthritis	240
The Origin of Bilirubin	242
Metatastic Tumours of Bone	243
ABSTRACTS FROM CURRENT MEDICAL LITERATURE—	
Pædiatrics	244
Orthopædic Surgery	245
BRITISH MEDICAL ASSOCIATION NEWS—	
Scientific	246
Medico-Political	247
Nominations and Elections	247
RESEARCH—	
The Sir John Grice Cancer Research Scholarship and the Clinical Research Scholarship	249
OBITUARY—	
Charles Coleman Jewell	249
Arthur Francis Bell	249
CORRESPONDENCE—	
A Warning	249
Deaths Under Anæsthesia	249
TRANSACTIONS OF CONGRESS	249
PROCEEDINGS OF THE AUSTRALIAN MEDICAL BOARDS—	
New South Wales	250
BOOKS RECEIVED	250
MEDICAL APPOINTMENTS: IMPORTANT NOTICE	250
DIARY FOR THE MONTH	250
EDITORIAL NOTICES	250

URETHRAL GONORRHŒA IN THE MALE AND PREGNANCY: REPORT OF THREE CASES PRESENTING AN UNUSUAL FEATURE.[1]

By P. FIASCHI, O.B.E., M.D. (Columbia), D.D.S. (New York), M.R.C.S. (Eng.), L.R.C.P. (London), *Sydney.*

I WISH to bring to your notice the report of the following three cases, as they are quite exceptional in my experience and fortunately diametrically opposite to the unhappy results which we too often encounter in practice. Briefly the facts are these: Here are three separate households; in each the wife is pregnant a number of weeks or months. The husband has intercourse with other women, contracts urethral gonorrhœa, then has intercourse with his wife; no preventive means are used by either side and the wife escapes gonorrhœal infection, as proved by the careful examination of these women carried out shortly after the microscopical diagnosis was established in the male, by other practitioners and myself.

I will first give the case reports and then pass a few remarks on the subject as, apart from the unusual clinical aspect, they have certainly a most important medico-legal feature.

[1] Read at a meeting of the New South Wales Branch of the British Medical Association on December 14, 1923.

My distinguished teacher, Dr. Robert F. Weir, of New York, one of America's most eminent surgeons, when he presented the first communication on acute intestinal obstructions due to the vermiform appendix some twenty years ago, in excusing himself for the delay in reporting his series of cases, remarked that surgery was a good deal like poker—"A man generally liked to open with a pair," and so in my case. I have waited some eleven years since my first observation before a second and third presented. These have come along in fairly rapid succession in the past two years.

The histories are as follows:

Case I.—The patient was first seen on November 12, 1912. With the exception of an attack of gonorrhœa three years previously, of which he stated he was completely cured in six weeks and his condition subsequent to this warranted him marrying, he had always been well. On November 6, 1912, he had connexion with a prostitute. On the night of November 7 (that is, twenty-four hours after the extra-conjugal coitus) he had intercourse with his wife who was then some five or six months pregnant. On the night of November 10 or early in the morning of November 11, he noticed some urethral discharge. Examination showed the external genitals normal with a sero-purulent drop at the meatus. Microscopical examination showed numbers of typical gonococci. His gonorrhœa ran an uneventful course and he was cured in some ten weeks. His wife was under the care of another practitioner. I immediately communicated to him the condition of affairs as regards the husband, so that he could examine the lady for gonorrhœal infection, and if necessary institute treatment or prophylaxis before and at labour. He examined her and

the microscopical examinations revealed no gonococci. The pregnancy ran a smooth course and no untoward symptom occurred, although the practitioner was on the *qui vive* for such. In this case the patient stated that following coitus with the prostitute no prophylactic measures were adopted, nor before coitus with his wife on the following night. I could not ascertain from the patient whether he had further intercourse with his wife in the time between November 6 and the onset of discharge on November 10. He admitted coitus once and was most apprehensive as to the well-being of his wife.

Case II.—This patient was first seen on September 25, 1922. He had never had any previous venereal infection. Three days previously he noticed a urethral discharge. Three and a half days prior to this he had had coitus with a girl. Twenty-four hours before he became aware of the existence of the urethral discharge, he had coitus with his wife night and morning, the wife then being three months pregnant. Examination showed the external genitals normal, with a muco-purulent discharge at the meatus. Microscopical examination of this showed numerous typical gonococci. On October 21, 1922, he developed symptoms of posterior urethritis, followed on October 24 with right epididymo-orchitis. These complications cleared up and he was discharged cured on December 18, 1922. His wife was under the care of another practitioner. I acquainted him immediately with the facts and an examination of the lady was at once arranged. On October 11 the doctor informed me that after two careful microscopical examinations of the urethra, Bartholinian glands and cervical canal carried out after two different visits, it was evident that the wife was free from gonorrhœal infection. In this case, as in the preceding, no prophylactic measures were adopted, either after the extra-marital coitus or before coitus with his wife. The latter also had not carried out any post-sexual toilet. The practitioner informed me the labour was uneventful.

Case III.—This patient was first seen on June 1, 1923. He had never had any previous venereal infection. Two days previously he had noticed some urethral discharge. Six and seven days before the onset of the discharge he had had coitus with two different women. With one of these women he had had regular illicit intercourse for some time past, with no ill-effects. The other woman informed him that he was the second man who had intercourse with her that night. Three days before he was certain of the discharge, that is to say, three or four days respectively after coitus with the other two women, he had intercourse with his wife who was about four to six weeks pregnant. In this case as in the preceding two no preventive measures or antiseptic ablutions were carried out by husband or wife either before or after coitus. Now in this case the young man knew to some degree of the risks of illicit intercourse and made it a rule to wash his genitals after such with a watery solution of permanganate of potash, but omitted to open the meatus and let some of the solution penetrate to the navicular fossa. He carried out this ablution after coitus with these two women, but his efforts in personal prophylaxis were evidently a failure for the above reason. I have called attention elsewhere ("The Prophylaxis of Venereal Diseases," THE MEDICAL JOURNAL OF AUSTRALIA, January 28, 1922) to this very common failure of personal prophylaxis. A great deal of gonorrhœal infection in the male could be prevented if the information could be widely disseminated amongst men that the lavage of the external urinary meatus with the antiseptic solution they employ (generally permanganate of potash) in a *sine qua non* in personal prophylaxis against gonorrhœa. This young man developed a left epididymo-orchitis on August 12 and was eventually cured on September 24, 1923. At his first visit I informed him of the very likely possibility of his having infected his wife and we arranged to have her examined. On June 4, 1923, after the usual custom I adopt in examining women for gonorrhœa, that is that they should not use a vaginal douche for forty-eight hours before the examination and should not pass urine from midnight until they were examined next morning between 9 a.m. and 10 a.m., I found firstly that there were no gross manifestations of gonorrhœal infection and secondly that in none of the smears taken from the urethra, the cervical canal and some mucus expressed from the right Bartholinian gland were gonococci found. On June 11, one week after, I examined her under similar conditions with the same results and again on September 27, 1923, also without discovering any gonococci. On November 5 the husband informed me that his wife had had a premature confinement on October 28 of twin boys, of a six months' pregnancy, at the Women's Hospital, one of the twins living eleven hours. No cause for this could be accounted. She had come out of the ordeal very well and is now in tolerably good health.

Now, before making any remarks on these cases, I wish to say that I have only made a very cursory review of the literature at my command and quite readily understand that if a careful search of the literature were made, no doubt similar experiences would be found. However, the unsual features of these three cases cannot be common, as I can find no reference similar to them in some of our most comprehensive works on gonorrhœa in women.

I do not believe these cases to be unique. For this reason I would very much like to hear if any of the members of the Branch have had similar experiences in their practices. It has been my experience after treating a fair number of both parties of a conjugal gonorrhœa or of men with mistresses whom they have infected as a result of sexual deviations during the past seventeen years in this city, that, if the husband becomes infected with gonorrhœa and has coitus with his wife, she invariably becomes infected either in the urethra, Bartholinian glands or cervical canal separately, in two localities or in all three. In the case of the lover and mistress, sometimes the latter escapes, due to a probably very careful post-sexual toilet to prevent conception.

The weight of evidence of the literature points most emphatically to the fact that the gonorrhœal penis or urethra is the most potent infecting instrument to the non-pregnant woman through coitus or attempt at coitus that we know of. Much more emphatic are the statements made by various authors with regard to the receptivity of the pregnant woman to gonorrhœal infection. I cannot do better than quote you verbatim the words of the late and celebrated Louis Jullien, of Paris, surgeon for so many years to Saint Lazare, the prison hospital of Paris for prostitutes, in his monograph *"Blennorrhagie et Mariage,"* published in 1898. To translate what Jullien has to say would rob his remarks of their truly Gallic lucidity. He states:

Aucune maladie n'est plus forcément transmissible par le coit que la blennorrhagie aiguë de l'homme.

Dans cet acte, le méat, gorgé de virus, se porte à la recontre de toutes les bouches absorbantes, le dépose sur toutes les membranes, y passant et y repassant dans son va-et-vient, comme pour y étaler et mieux y faire pénétrer les germes maladifs.

Un seul moyen peut prévenir le danger, c'est l'isolement de l'organe viril sous une membrane imperméable, baudruche ou caoutchouc, qui empêche tout contact direct entre la muqueuse impure et la muqueuse saine.

Une femme qui a commerce avec un homme atteint de se catarrhe virulent, ne peut donc que très exceptionellement échapper à la contagion, quelles que soient les

ablutions effectuées de part et d'autre, avant et après. C'est la un fait dont la pratique nous rend journellement temoins.

It may be argued from the recital of the above three cases that the fact that the husbands had coitus with their respective wives before the onset of the discharge was fully appreciated was a very big factor in the non-infection of the women. I think, as the result of the experiences of many observers in this field, that it can be taken as axiomatic that the male urethra or navicular fossa once infected becomes immediately the most potential means of infection to the female through coitus or attempts at coitus. Again it may be said these men may have urinated just before intercourse with their wives, so that the virus was eliminated. But you and I know that, unfortunately, this simple act will not free the male urethra from the gonococcus by the well-known clinical fact that thousands of men who have contracted urethral gonorrhœa will tell you that they immediately urinated after coitus to avoid infection.

I need not go into details as to what purpose the prepuce is popularly made use of in conjunction with the urinary act as a means of personal prophylaxis by a large number of the laity. Personal prophylaxis in the male, by immediately urinating after coitus, is probably the oldest form of prophylaxis adopted by all classes ever since gonorrhœa was known. If urination will not free the meatus and navicular fossa from gonococcal infection immediately after coitus, what chance will it have twenty-four, forty-eight or seventy-two hours after and before coitus with another woman?

I grant you that it may be argued that in the early stages the gonococci have penetrated the epithelial layer and are not on the surface. One can hardly imagine that with the preliminary secretion of Cowper's glands and with the forcible expulsion of the seminal discharge at the time of the male orgasm certainly a few if not a considerable number of gonococci are expressed from the urethra. As regards immunity to the gonococcus, without making any further reference I need only quote Norris, of Philadelphia, in his classical monograph on "Gonorrhœa in Women," the finest work we have in English on the subject and probably in any other language. He states: "No trustworthy evidence has ever been adduced to show that actual immunity to gonorrhœa exists in the human species." Concerning gonorrhœal infection in pregnancy Norris says: "The influence on pregnancy is usually quite marked. Pregnant women are, as a result of the increased blood supply of the genital organs and softening of these structures incident to gestation, more receptive to gonorrhœal infection than their non-gravid sisters." In support of this he quotes the figures of Gurd, fifty-two cases of infection out of one hundred and thirteen pregnant women, and Leopold who considered that 20% of pregnant women had gonorrhœa. Norris, however, is inclined to look on the more conservative figures of Taussig, Harrar and others that 5—10% of pregnant women have gonorrhœa to be probably more correct. There is an additional fact these figures given by Norris bring out and this is that it is patent that the secretions of the cervical canal of the pregnant uterus have practically no influence whatever on the gonococcus of an inhibitive or destructive character. In the well-known French monograph of Verchère, *"La Blennorrhagie chez la Femme,"* I can find no reference to non-infection of pregnant women after coitus with an infected man, it is understood no precautions having been made use of and certainly Verchère had abundant clinical material of this kind passing through his hands.

Before concluding, I would like to say a few words on the medico-legal side. These cases prove conclusively that it is possible for a man suffering from gonorrhœa to have coitus with women—and women in their most receptive state, that is pregnant—and not infect them. Some years ago being called to a case in the Courts as an expert witness, a learned Judge asked me: "Is it possible for a man suffering from gonorrhœa to have coitus with a woman who took no precautions and actually became pregnant to the man as a result, to escape infection?" On the spur of the moment I was unable to quote any of the literature, but I told him it was possible and related to him the account of my first case in support. He further asked me if the woman did not become infected from the gonorrhœal penis, what did I think of it? I merely replied, "An act of Providence." He seemed to concur.

In conclusion, I wish to impress on you if such combinations arise in your practices not to be too pessimistic at first; offer hope to the husband and await careful microscopical examination of the wife. Under the stress of the moment when the diagnosis of gonorrhœa in the husband is made, certain happenings of a serious nature are likely to occur which only accentuate the evil first perpetrated, I will not say innocently, but certainly not wantonly. The delay of a few days before an absolute confirmatory diagnosis is made of infection in the case of the woman will in many cases greatly allay the distress of mind of the male and prevent any wild deed often contemplated at first.

Finally bear in mind the medico-legal aspects of the above cases, as so far I cannot find any similar reference and these may be of use to you if called to the Courts.

I wish to express my thanks to my two colleagues for the reports of their examinations of the first two patients and their cooperation.

NATIONAL INSURANCE IN AUSTRALIA AS AFFECTING THE MEDICAL PROFESSION.[1]

By J. Newman Morris, M.B., Ch.M. (Melbourne), *Melbourne.*

Introductory.

This article has been written at the request of the Council of the Victorian Branch of the British Medical Association and is intended to be informa-

[1] Read at a meeting of the Victorian Branch of the British Medical Association on February 6, 1924.

tive and explanatory. It is hoped that it will stimulate the medical profession to give some thought to the matter. The scope of the article includes reasons for introducing the matter, a general survey of social insurance, examination of the *National Insurance Act* of Great Britain, some opinions already expressed in Australia and suggestions that may aid medical thought.

Historical.

For many years national insurance has been mentioned as being part of the policy of the leading parties in the Commonwealth Parliament and the present Government has appointed a Royal Commission on National Insurance which is at present taking evidence on the subject. Medical benefits are included in practically all the schemes of national insurance which are in operation at the present date and the Royal Commission has declared its intention to recommend inclusion of these benefits in its report to Parliament. The subject is, therefore, one which concerns the medical profession in Australia very closely and the proceedings of the Commission will need to be followed carefully by us. The exact terms of reference to the Royal Commission are not clear, except that it is to take evidence on the whole question of national insurance. Put briefly the basis upon which the Commission is starting is that there are 1,500,000 wage earners with an income of £300 *per annum* or less; that there are 500,000 members of friendly societies or similar bodies who are insured voluntarily against sickness and accident. These constitute the thrifty section of the community who also take out life and accident insurance policies. It is proposed to introduce a comprehensive scheme of compulsory State insurance to include all wage earners throughout the Commonwealth whose income is below a certain limit, say £300. The Royal Commission has taken the preliminary step of consulting all organizations in the Commonwealth whose interest it is considered will be concerned with national insurance. Each Branch of the British Medical Association in Australia has been asked to appoint a representative who may be consulted by and who may make suggestions to the Royal Commission. Similar action was taken with regard to all other bodies. The Federal Committee of the British Medical Association has appointed a committee of its members to watch developments and a National Insurance Committee has been appointed by the Council of the Victorian Branch. It is expected by the Council that every member of the Branch will take a very keen interest in the matter and help the Council by suggestions and information in every possible way.

If national insurance is established in Australia, it will have an influence on every member of the medical profession and no reasons for regret should be allowed to occur. It must be remembered that no scheme of national insurance has yet been proposed in Australia. What is definitely proposed is that any scheme shall be compulsory and that medical benefits shall be included. To understand what is meant by national insurance it is necessary to have some knowledge of the systems already working in other countries. Rubinow defines social insurance as the policy of organized society to furnish that protection to one part of the population which some other part may need less or, if needing, is able to purchase voluntarily through private insurance. It is not intended in this paper to discuss the whole question of social insurance. Sickness, accidents, invalidity, premature or normal old age and unemployment are the economic risks which face every working man. How they should be provided for, whether by individual savings or by mutual help, is or has not hitherto been our business as a profession. It has to be remembered that social insurance commences with wage-earning men, but the tendency in European countries has been to extend the policy to include other social classes. The modern conception of social insurance is a system carrying with it firstly, compulsion; secondly, State subsidies and thirdly, strict State supervision and control. Social insurance had its origin in Germany some thirty-five to forty years ago. The main branches of disability covered in each system are: (i.) Industrial accident, (ii.) sickness, (iii.) old age, (iv.) invalidity, (v.) widows and orphans and (vi.) unemployment. Every system includes medical benefits which more or less are concerned with each branch of insurance. Nearly every country has adopted workers' compensation laws in which the compulsion is on the employer. Compulsory sickness insurance in which the compulsion includes the working man, is not so universal, but has been adopted in Germany, Austria, Hungary, Norway, Servia and Roumania, while in other countries a partially compulsory system or a voluntary subsidized system has been adopted. Great Britain adopted the national insurance system in 1911. Since that date no other country has adopted it, although attempts were made in 1916 and 1920 to introduce it into the United States. These were unsuccessful.

In all the systems the contributions are divided between the employer and employed in varying proportions, with a small proportion paid by the State. No system is all inclusive. Compulsory insurance was evolved because a voluntary insurance did not protect all who needed protection and, in spite of administrative difficulties and the resistance of employers, the operation of the system in various countries has gradually been extended. Almost all systems permit optional or voluntary insurance to certain groups to whom compulsion does not comply. The qualifications as a rule for these voluntary members are intended to embrace groups economically in similar conditions to those covered by the compulsory system. For his contribution the insured workman receives certain benefits and the general tendency of the various systems is to establish minimum requirements to the benefits given, so that only the bare necessities of life are satisfied, leaving the provision of additional benefits to the individual societies. Almost all the systems except the British limit their operations to tem-

porary sickness and do not include chronic ailments such as tuberculosis, cancer *et cetera*. These are taken care of in a different way to avoid complications in the organization of the sick funds. There is a limit usually of twenty-six weeks for continuity of benefits.

The two main functions of all sickness insurance systems are financial aid and medical aid. The provisions for medical aid are extremely liberal in most countries. In Germany the minimum requirements are that the fund furnishes surgical and medical attendance, free medicine for twenty-six weeks and certain therapeutic supplies. Provision is made for hospital treatment. The proper organization of medical aid has always been a vexed problem and the medical profession in western Europe, notably in Germany and Austria, has had the usual experience in being forced into the defensive on very many occasions. The experience of the medical profession in Great Britain is familiar to most of us and, if we are to judge by recent events, some discontent with their lot is felt by more than 94% of the 13,000 practitioners on the panel.

The need for the introduction of national insurance with medical benefits into Australia is not by any means apparent on the surface, but it is not intended to deal with that matter in this discussion. The conditions of medical practice in Australia are probably fairly similar to those in Great Britain and it will be informative to consider the working of the British *National Insurance Act* in so far as it affects the medical profession. Prior to the passage of the *National Insurance Act* in 1911 the British Medical Association adopted certain principles which were considered to be fundamental in any national medical service. These principles were incorporated in what came to be known as "the six cardinal points," and they were universally accepted by the whole medical profession in Great Britain. These six cardinal points had an important influence in modifying the medical clauses of the bill in the committee and report stages in the House of Commons. They took the form of a demand for:

(i.) An income limit of £2 per week for those entitled to medical benefits; (ii.) free choice of doctor by patient subject to the consent of the doctor to act; (iii.) medical benefits to be administered by insurance committees and not by friendly societies; (iv.) the method of remuneration of medical practitioners adopted by each insurance committee to be according to the preference of the majority of the medical profession in the district of that committee; (v.) medical remuneration to be what the profession considers adequate, with due regard to the duties to be performed and other conditions of service; (vi.) adequate medical representation amongst the insurance commissioners on the Central Advisory Committee and on the local insurance committees and statutory recognition of a local medical committee representative of the profession in the district of each insurance committee.

The National Insurance Act of Great Britain.

Let us now look briefly at the acts themselves. The *National Insurance Act* of Great Britain is under the general administration of the Ministry of Health. The local administration is conducted by insurance committees, each consisting of from forty to eighty members as follows: Three-fifths are appointed so as to secure representation of insured members of approved societies and deposit contributors; one-fifth are appointed by county council or borough of whom two are women; two members are elected by the resident medical practitioners of the district; one or, if the number of members is sixty, two or, if eighty, three are medical practitioners appointed by the County Council; the balance are appointed by the Insurance Commission, one being a medical practitioner and two women.

Thus there are four medical practitioners if the number of the committee is less than sixty and at the most six medical practitioners if the number is eighty. Local medical committees may be formed and are to be consulted on all general questions affecting the administration of medical benefits. In addition there are district insurance committees, sub-committees to administer any benefit, local drug committees and advisory committees. On the latter medical practitioners are represented.

The duties of an insurance committee are: To administer medical benefits; to administer sickness benefits *et cetera* to non-members of friendly societies; to arrange with medical practitioners for the provision of medical benefits either by the panel system or otherwise; to provide for the supply of drugs *et cetera;* to make reports on the health of insured persons and to make statistical returns; to make provision for lectures on health matters. Persons liable to be insured include all persons of either sex of the age of sixteen years and upwards who are employed persons within the meaning of the *Act*. These include all persons who work under a contract of service or apprenticeship and receive less than £250 *per annum*. All persons who receive more than that amount as wages for manual labour, are included. These contributors are compelled to be insured and their contributions are deducted from their wages. It was stated that the wages of manual workers varied so much, that if an income limit were fixed, very large numbers would be "in and out" and that no effective insurance scheme could be worked on such a basis. Exemptions applied to certain classes of employed persons. The income limit of £250 *per annum* seems to apply to all except manual labourers. The exemption applies also to persons who have a pension or income of £26 *per annum* upwards not dependent upon personal exertion or who are dependent upon some other person or who are not employed within the meaning of the *Act*. Provision is made for these and others to become voluntary contributors. Intermittent and casual employees are also exempt. When an insured person ceases to be employed, he is entitled for twelve months to receive medical benefit, if he is a member of an approved society.

Seven-ninths of the funds for providing benefits are derived from employed contributors and employers and two-ninths from moneys provided by Parliament. An insured person can either become a member of an approved society or he becomes a deposit contributor and his contributions are credited to a deposit contributors' fund. In the latter case his right to benefit expires when the sum standing to his credit is exhausted, with the exception of medical benefit which continues until the end of the current year.

Medical benefit consists of medical treatment and attendance, medicine and appliances, sickness benefit limited to twenty-six weeks (fifteen shillings for men and twelve shillings for women per week) and disablement benefit (seven shillings and sixpence for both). Maternity benefit amounts to forty shillings. In regard to sanatorium benefit the insurance committee is required: (i.) To make arrangements with persons or local authorities having the management of sanatoria or other institutions with a view to providing treatment for insured persons suffering from tuberculosis; (ii.) to arrange the provision of treatment for such persons otherwise than in sanatoria by similar persons or authorities in a manner approved by the Local Government Board. Additional benefits may be provided when an approved society has a surplus.

Medical benefits are administered by insurance committees and regulations must be made so as to secure: (i.) Lists of medical practitioners who have agreed to attend insured persons; (ii.) a right on the part of any medical practitioner to be included, but if his continuance on the list would be prejudicial his name may be removed from the list; (iii.) the right on the part of any insured person to select his practitioner on the list; (iv.) the distribution amongst the several practitioners on the list of insured persons who have failed to make any selection; (v.) the provision of medical treatment on the same terms to members of any friendly society which becomes an approved society, when such members are not entitled to medical benefit on account of age or personal disablement. Other benefits are distributed by approved societies to their members or by insurance committees.

When excessive sickness due to preventible causes has occurred an inquiry may be held and if it is proved that the excess is due to conditions of employment, to bad housing or insanitary conditions or to insufficient or contaminated water supply, the extra expenditure involved shall be made good by the persons or bodies deemed responsible.

The duties falling to medical practitioners under the *Act* have been summarized as follows by Carr, Garnet and Taylor in "National Insurance." They may act as insurance commissioners; as members of advisory committees; as members of insurance committees and possibly of district committees; as members of local medical committees; as medical inspectors, supervisors, referees *et cetera;* as examiners of candidates for admission to approved societies if required by the societies; as medical officers to the sanatoria or other institutions, and possibly for dispensaries for tuberculosis and other diseases, as well as for hospitals in general. They may undertake domiciliary attendance and treatment, either for ordinary medical benefit, for tuberculosis and other specially prescribed diseases (sanatorium benefit) or for maternity cases (maternity benefit). They may furnish records of cases of illness, reports on health, give lectures, and keep records for purposes of research, *id est* sanatorium benefit. They may grant various kinds of certificates entitling to sickness and disablement benefits.

Medical benefit furnishes by far the greatest part of the work falling to medical practitioners and it is important to remember that medical benefit may take various forms. Ordinary medical benefit is defined as medical treatment and attendance and includes the provision of proper and sufficient medicines and such medical and surgical appliances as may be prescribed by regulations to be made by the Insurance Commissioners. It also includes the arrangements for granting the concession to be made by the Insurance Committee or in certain events by the Commissioners. In certain cases it may take the form of a contribution towards the cost of medical attendance and treatment obtained by the insured under their own arrangement. Medical attendance and treatment obtained through existing systems and institutions may be regarded wholly or in part as medical benefit. Medical benefit may consist of a sum of money paid in lieu of medical benefit proper, when the benefit is suspended. The medical benefit regulations provide for the general arrangements for the provision of medical benefit, the methods of obtaining medical benefit *et cetera,* financial provisions, provisions relating to the investigation of disputes, appeals *et cetera,* inquiries relating to practitioners, inquiries relating to persons supplying drugs or appliances and other miscellaneous items.

There is also a schedule defining the terms of service of medical practitioners. Every legally qualified medical practitioner who gives notice that he accepts service upon the terms for the time being in operation, will have his name included in the Insurance Committee's list. On giving three months' notice he may withdraw his name. Arrangements are made for the transfer after due notice of insured persons on his list to his successor, in the event of his retirement or death. He is responsible for the treatment of all persons who have been accepted by him on his list, or who have been assigned to him in accordance with the allocation scheme. He is also responsible for all persons for whom he may be required to provide treatment pending their acceptance by or assignment to another doctor, or in emergency. If he declines to accept an applicant, he is required to provide any treatment immediately needed. He signifies his acceptance of an applicant by signing the latter's medical card and sending it to the committee. A practitioner may have the name of any person on his list removed subject to certain restrictions. He is entitled to require an applicant for treatment to produce evidence of title

to treatment by showing his medical card. If the patient fails to produce his card any necessary treatment must be given, but a fee may be demanded and the receipt must be given on a special form. This fee will be deducted from the practitioner's allowance if the patient within fourteen days proves his title to medical benefits.

The medical practitioner is required to give such treatment as can consistently with the best interest of the patient be undertaken by a general practitioner of ordinary professional competence and skill. Midwifery is not included, nor attendance for ten days after confinement. If services beyond the competence of an ordinary practitioner are required, the patient must be advised and assisted to obtain them. The place of attendance and hours of consultation and any alterations of these are arranged to the satisfaction of the insurance committee. He must provide proper and sufficient surgery and waiting room accommodation. If necessary, he must visit a patient within his district and issue medical certificates free of charge. He is responsible for providing an anæsthetist when necessary, if he operates. Drugs and appliances which are necessarily or ordinarily administered by a practitioner in person, must be supplied by him. They must also be supplied by him if they are needed for immediate administration or application or before a supply can conveniently be obtained otherwise. In ordering drugs and appliances on the forms provided he must not write "repeat mixture." The order or prescription must not be written in such a manner as to necessitate reference on the part of the person supplying the drug to a previous order. The practitioner is required to keep records of the diseases of his patients and of his treatment of them in such form as the Minister shall determine. He must furnish reports concerning patients recommended for domiciliary treatment for tuberculosis *et cetera*. He is required to furnish written information required by the medical officer in regard to any patient to whom he has issued a certificate, to meet him in consultation and afford access to his records and to answer any inquiry of the medical officer with regard to any prescription issued or report furnished by him. A panel doctor must not accept fees for the treatment of insured persons or for drugs or appliances supplied.

Payment is made by a capitation system, an attendance system, a combined system, that is capitation except for special classes of service and any other combination or modification of such system as the Minister approves. Provision is made for the payment of an anæsthetist, emergency treatment to another doctor's patient or to temporary residents and for drugs and appliances supplied by the doctor himself and for mileage.

Certificates for incapacity for work are to be given when first the practitioner is of that opinion. Intermediate certificates must be given every seven days and a final certificate on resumption of work. The name of the patient and a concise statement of the complaint, the signature and the date are to be entered. When this date is not the date upon which he examined the insured person he shall so alter the wording of the certificate as to show both the date on which the examination was made and the date of signing. The certificate must be written in ink or indelible pencil and given at the time of examination or at the first opportunity afterwards. There are also certificates to be filled in for other persons.

It will be seen with regard to the British Medical Association policy that several points were gained, namely free choice of doctor, control of medical benefit not to be by approved societies, the method of remuneration to be decided by the profession locally. With regard to the administration of medical benefits the bill as originally introduced provided for the administration by approved societies, but this was not agreed to by Parliament. Only fifteen voted for it. According to Carr, Garnet and Taylor arguments carrying the greatest weight were: The insistent demand of the medical profession, the urgent public need for uniformity in the medical service which could not have been obtained if each approved society had adopted its own methods, and the obvious fact that the withdrawal of the administration from the societies could not possibly harm them, but would be advantageous, as the insurance committees, if funds were insufficient, could have recourse to the Treasury.

"The medical profession," says Cox, "were determined after its experience of club practice that it would not put itself under the control of the approved societies or similar bodies, though it had no objection to the control of a public body on which the profession, as well as the approved societies, was represented." The revision by the Minister of Health of the amount of remuneration for 1924 has been taken advantage of by the representatives of the approved societies to attempt to gain control of medical benefits. So united was the opposition of the 13,000 panel doctors that over 94% of them placed their resignations in the hands of the Insurance Acts Committee of the British Medical Association rather than submit to this control. As a result the Minister of Health accepted the formula: "Medical benefit is one of the primary benefits of the *National Insurance Act*."

With regard to the constitution of the Insurance Committee it was said that the medical profession could not reasonably expect more than enough representatives to be able to voice properly its opinions in matters relating to the profession or to public health. But, as Cox says, the representation of the profession on the insurance committees has never been considered to be adequate, though less is heard about that point than formerly, because more and more responsibility in purely professional matters is being placed on the local medical committee and the panel committee. The amount of remuneration has never been considered to be adequate.

The Advantages and Disadvantages of the System.

Having outlined a system of compulsory national insurance that has had a more or less chequered career of eleven years, let us consider briefly the

"pros and cons" of the whole question. The intention of the advocates of national insurance is to prevent and irradicate poverty and the subsequent need of relief by meeting the problem at its origin rather than waiting until the effects of destitution have been felt. Poverty in its narrowest sense is obviously meant and this means the poverty of those who are always on the margin of want. Rubinow classifies the usual causes of poverty as absence of the wage earner by death or accident, *et cetera* or desertion, disability to work due to accident, sickness, invalidity, motherhood or old age, and inability to obtain a living—unemployment. It is claimed that social insurance meets these, but it has failed to do so because in no country have all branches of social insurance been developed; scarcely any known system is absolutely inclusive and the systems in vogue give inadequate relief.

It is claimed, however, that industrial accidents as a cause of pauperism have been almost eliminated in Germany. Lloyd George said that the aim of national insurance was to provide, as may be, some kind of shelter against the slings and arrows of fortune. Sir George Knibbs in a parliamentary report on social insurance issued in 1910 said that in Germany it was recognized that legislation in regard to social insurance rested on the principle of social duty to the working classes, this being part of the primal duty of conserving to the full the well-being of the entire State. Several advantages of social insurance are mentioned by him. He claims that it is a direct stimulus to employers of labour to utilize improved processes and appliances and to improve the hygienic conditions and constructive arrangements of factories. He says that it leads to improved treatment and hygiene, with more definite progress towards the prevention of disease. It produces increased efficiency of workmen, has a beneficent moral effect and is conducive to general prosperity.

Compulsory insurance, he says, is the most economical and is the only way to enable whole classes of the community to reap the benefits of insurance. While existing institutions furnish conclusive evidence of the need, a study of them discloses the fact that no one of them or any of them combined are adequate or even appropriate for the full satisfaction of the need.

Rubinow mentions some objections which might possibly be made to national insurance. The first was that in spite of national insurance poverty remains and relief funds grow. Insurance does nothing to prevent accident, sickness or unemployment, but is the means of doling out relief after the onset of these. It is not a radical cure, but simply a method of symptomatic treatment. The cost of insurance is too high and the protection granted by social insurance destroys the sense of watchfulness and independence of spirit of the working class and actually increases the sum of economic disasters against which it is aimed to protect. Social insurance not only increases the actual hazard, but stimulates vastly more the simulation of accident or disease or unemployment. It encourages professional mendicants; it demoralizes the entire working class by furnishing an easy reward for malingering. The last possible objection which Rubinow enunciated was that it is outside the proper limits of State activity.

The effect of the system on the medical profession in England has been shown by Cox who says that the amount of professional work of the average practitioner has been increased, especially in the consulting rooms. He has more clerical work to do. This may probably have a useful disciplinary effect on many doctors who are very unbusinesslike and keep no records of their cases and the younger generation will take to it more kindly. The system has increased the income of the profession as a whole. It has compelled doctors to work together more. It has not had any direct effect on medical research, but it has been the means of setting up the first real State medical endowment of research. There is no statistical evidence to show the effect of the system on public health. Amongst objections and desirable modifications Cox suggests that the system should be made more comprehensive and provide the insured person with a really complete medical and auxiliary service and that the payment of the doctor should be increased so as to provide a good income with smaller lists. This, of course, would involve more inspection. The local administration should be in the hands of a better body than the present insurance committee. The domiciliary medical services should be linked with the existing health authorities. The medical profession should have a greater share in the administration of medical benefits.

It has been said that the tendency towards social insurance legislation in all countries is so strong that it seems impossible to stem the tide. National insurance is almost a universal system of social policy, although unsuccessful attempts have been made to introduce it into America. The editor of *The Journal of the American Medical Association* in commenting on Dr. Cox's article said that while compulsory health insurance might be a good thing for England, conditions in America at that time were such that there was neither a need nor a desire for it. It was not worth while taking a nauseous medicine to cure a disease that did not exist. Does this remark apply to Australia? Is there need for national insurance in Australia? It is to be hoped that the Royal Commission will make the closest inquiries on that point. In the majority of published opinions of medical men in this country opposition to the introduction of a system of national insurance is expressed. In July, 1913, the editor of the *Australasian Medical Gazette* said:

> In Australia there is practically no poverty or unemployment such as exists in England and there is therefore no necessity for an act of this kind. Moreover, the sick poor are very liberally provided for by hospitals, friendly societies, benefit and benevolent institutions of all kinds and from this point of view a system of national insurance is not called for here. But what is of even still greater importance, we do not want the adoption of any legislation which has been shown by the experience of other countries to be calculated to foster malingering and to sap the moral fibre of the race. On these grounds we think

the profession should set its face against any system of national insurance, so far, at any rate, as the provision of medical attendance and sick pay is concerned.

Dr. Thurston, of Tasmania, pointed out in the same journal that an insurance act would enormously increase the amount of contract work in Australia and that without safeguards this would tend to lower the standard of medical work. The Federal Committee in 1918 made a pronouncement on the question of the nationalization of medicine in which was pointed out the danger of making the conditions of medical work such as to repel the best men of the community. And in response to the request of the Federal Committee for constructive suggestions a committee appointed by the Council of the Victorian Branch under the Chairmanship of Sir Harry Allen drafted a report on the future of medicine which was adopted by the Council and sent on to the Federal Committee. This is the most recent and, as far as I know, the only constructive contribution to the subject by any organized body of medical men in Australia. In the report emphasis was laid on the greatest duty of the State in the sphere of preventive medicine and suggestions were made in regard to desirable lines of reform in public health law and administration. On the question of national insurance, it is stated in the report of the Committee:

> The medical insurance scheme of England was received by the profession in England with mixed feelings. It has apparently increased the income of some medical practitioners and has impoverished others. It has subjected a large proportion of the profession to disciplinary regulations which are partly vexatious, so that undue time is occupied in formal returns. It has not brought about such limitation in the number of members on practitioners' lists as will ensure time for efficient service.

A recent regulation provides for a limit to the number of insured persons on a practitioner's list.

The attitude of the leaders of the friendly societies may be gathered from some of their published statements. They are in favour of national insurance provided that the friendly societies have the main say in controlling the machinery that will be required to give effect to it. "The basis of payments to doctors will be the highest rate paid by friendly societies in the Commonwealth today." "If the act is formed in such a way that the doctors are able to fix their rates, the result will be that the friendly societies will never be able to pay the fees demanded and their work will be seriously curtailed." One prominent friendly society official who has just returned from England, is quoted as saying that the benefits of any health insurance act should be administered in Australia solely through the friendly societies.

The Position in Australia.

We have to remember that a Royal Commission on national insurance has been appointed and is already taking evidence; that national insurance is a subject about which we know very little; that it is necessary for the representatives of the medical profession to define their attitude towards it and that this is a very difficult matter in the absence of any concrete scheme and that the assistance of every member of the profession is needed by those who are endeavouring to collect data on which to form an opinion calculated to help the profession in any action it may take. The Royal Commission will present a report to Parliament within the next year or two. Parliament knows nothing about national insurance and will be guided largely by the report and by public opinion. Public opinion will be influenced largely by the press and the amount of extra taxation involved, if any. The friendly society attitude will depend on the extent to which it is proposed to put the control in their hands. What will be the attitude of the medical profession?

Our attitude towards the matter demands considerable thought. As individual members of the profession our aims are, the prevention and cure of disease and the obtaining of a means of livelihood. Any system of national insurance will affect both of these. As citizens there are four questions to which we should like attention given: Do we need compulsory national insurance? Are the provisions for the care of sickness not adequate? Can we afford it? It may be said at once that if the need is proved we must afford it. Is national insurance feasible under the political and social conditions at present obtaining in Australia? Would the introduction of such a system be constitutional? As medical men we ask: Will the introduction of compulsory medical insurance improve the methods of prophylaxis and cure? What will be the effect of such a large increase in contract practice on our individual and corporate economic conditions? Will such a system increase or decrease the already large amount of personal discomfort that is involved by the nature of our work?

If Parliament and people are convinced of the need and feasibility and are prepared to accept compulsion in a new form, what then will be our attitude, in view of the fact that without us medical benefits will be impossible? If we agree as citizens and medical men to the desirability of the proposal, we must be prepared to claim certain rights. Such rights would include adequate representation, the adequacy being agreeable to our idea of it and payment at rates suitable to the medical profession. It must be remembered that panel doctors in England are much better paid than are friendly society doctors here, taking into consideration the different conditions of service, and that the payment here should be higher at present than the prevailing friendly society rate. We must determine the conditions of service. We must insist that medical benefits will insure full and complete provision of treatment for insured people, including treatment by general practitioners, special treatment, laboratory and X-ray facilities *et cetera*. Whatever be our attitude it must be a well considered one which we can justify and above all it must be united.

Conclusion.

In conclusion, let me quote from "The Doctor and the People," by Woodcock:

> When it is remembered that it will take seven years to create another medical army such as ours, it is plain that

the politicians are in our hands. They can pass medical bills, but without our assistance all such legislation is useless. If only a great and universal impulse passed through our ranks, bidding us act as one man, a battle between the doctors and the politicians would be the shortest ever fought. That we should be unanimous is all in favour of public rights. Medical men are slothful in politics, prone to bear unfair treatment with just so much grumbling as falls short of revolt; they are not by nature rebels. But our weapons are simple. We only need signatures and guarantees, financial guarantees it may be, as we ought to be ready to pay and to play our part. A strike is unthinkable, but a determination to refuse to work with a Government is not unthinkable. We should never come even to that, unless both the public interest and the future of a scientific profession demanded it. The doctors have immense power, but tradition is against the use of it, except in extreme circumstances. If, however, the opportunists wish now or in after time to make the conditions of practice incompatible with the interests of medicine as a great profession, if the conditions are such as to entice into the ranks none but men poor in character and intellect, then the power will be exercised.

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THE BLOOD UREA AND NITROGEN OUTPUT OF AUSTRALIAN STUDENTS.

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IN investigations on human metabolism, normal and pathological, in Australia one is handicapped by a lack of Australian standards. The conditions of life here are in many respects so different from those which obtain in Europe and North America that one would not seem to be justified in accepting the standards obtained in these colder countries as true indications of the conditions existing in Australia. Among other things there are no standards for the normal range of urea concentration in the blood. The importance of having such standards from a clinical and bio-chemical point of view is obvious. It was with this idea in mind that this investigation was started.

Blood urea estimations were made on seventy-five University teachers and students, all, as far as could be observed, in good health and of ages between about twenty and forty years.

The blood samples were taken between ten and eleven o'clock in the morning, after a light breakfast. A number of control experiments showed that the figures obtained at such a time would not differ materially from those obtained while fasting before breakfast.

The method employed for the estimation of blood urea is one devised by ourselves which requires only 0.1 cubic centimetre of blood for each estimation, an amount which can readily be obtained from finger puncture. A full description of the method will appear shortly in *The Bio-chemical Journal.* All estimations were done in duplicate and the activity of the urease solution and the accuracy of the method frequently checked against a solution of pure urea.

Of the seventy-five subjects examined fifty-eight were men and seventeen women.

The average for the seventy-five subjects was 11.3 milligrammes of urea nitrogen per hundred cubic centimetres of blood. The average for the fifty-eight men was 11.4 milligrammes of urea nitrogen per hundred cubic centimetres of blood. The average for the seventeen women was 10.9 milligrammes per hundred cubic centimetres of blood. The range of variation was from 7.1 milligrammes to 15.7 milligrammes of urea nitrogen per hundred cubic centimetres of blood. Table I. shows the distribution of the figures for the seventy-five subjects.

TABLE I.

Blood Urea N.—Milligrammes.	Subjects.
10 or less	22 = 29.3%
11 or less	37 = 49.3%
12 or less	52 = 69.3%
14 or more	12 = 16.0%
Between 10 and 12..	30 = 40.0%

It is seen that in practically half of the subjects the blood urea nitrogen content was eleven milligrammes or less, while in nearly 70% it was twelve milligrammes or less. Now these figures are distinctly lower than those which have been obtained in Europe or America. Myers (1922) puts the generally accepted conditions for America clearly in the following sentence. "Blood urea in strictly normal individuals, taken in the morning before breakfast, appears to fall within the comparatively narrow limits of twelve to fifteen milligrammes of urea nitrogen per hundred cubic centimetres of blood. Occasionally figures outside of the limits may be observed such as ten to eighteen milligrammes, but figures above twenty milligrammes can ordinarily be regarded as pathological."

In searching for a cause for these low figures it seemed that estimation of the urea output might furnish a clue.

The urine urea and urine total nitrogen for twenty-four hours and the blood urea nitrogen of sixteen male medical students were determined during the months of June and July. The urine was collected from 9 a.m. one day to 9 a.m. the following day, the person living a normal life without any control of the diet. The blood sample was taken between 10 a.m. and 11 a.m. on the second day. The subjects had had considerable practice in collecting twenty-four samples of urine and as they were all volunteers for this investigation, it may reasonably be assumed that the urine collection was properly carried out.

TABLE II.

Number.	Blood Urea Nitrogen, Milligrammes per 100 Cubic Centimetres.	Urine Urea, Grammes in 24 hours.	Total Urine Nitrogen, Grammes in 24 hours.	Protein Metabolized, N × 6.25.
1 ..	7.1	16.7	8.9	55.6
2 ..	10.2	17.9	9.4	58.5
3 ..	10.5	22.8	12.6	78.8
4 ..	10.9	14.1	6.9	43.2
5 ..	10.9	20.2	10.6	66.2
6 ..	10.9	18.0	10.1	63.0
7 ..	11.0	25.5	12.2	76.3
8 ..	11.6	18.4	10.5	65.6
9 ..	11.8	18.0	10.4	65.0
10 ..	11.8	21.9	11.8	73.8
11 ..	11.9	18.9	9.8	61.3
12 ..	12.0	24.7	12.8	80.0
13 ..	12.5	21.2	10.8	67.5
14 ..	13.5	25.9	12.9	80.6
15 ..	14.6	27.9	13.5	84.5
16 ..	16.2	32.6	16.6	103.7
Averages ..	11.7	21.5	11.2	70.2

From Table II. it will be seen that where the protein metabolism is high, there is a tendency for the blood urea to be high too and *vice versa*. The low average urea output and output of total nitrogen are noteworthy. The figure usually given for urea excretion is thirty and thirty-five grammes for the twenty-four hours. The figure of 21.5 grammes contrasts with this and in this series there is only one over thirty grammes. The protein metabolized has been estimated by multiplying the total nitrogen output by 6.25 and the low average figures in this series are striking. Instead of one hundred grammes of protein or more the average is only 70.2 grammes, ranging from 43.2 to 103.7 grammes. Wardlaw (1922) in an examination of the energy consumption of a different lot of students found similar figures for protein intake. If the two subjects with very high protein intakes of 162.5 and 132.5 grammes respectively in his Table I. be omitted, the average for eight men is 80.7 grammes and for nine women is 63.6 grammes.

It is, of course, recognized that University students are not typical of the general community, but they may be taken as fair samples of a large class of the community in the cities. Australians, in general, are considered to be large meat eaters, that is, consumers of large quantities of protein, but for the class represented by the University student this does not seem to hold.

The low blood urea figures seem to be definitely correlated with a low protein metabolism.

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Reports of Cases.

GENERAL ŒDEMA OF THE FŒTUS.[1]

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IN THE MEDICAL JOURNAL OF AUSTRALIA of September 16, 1922, is a good abstract of a very instructive article by Norman B. Capon in *The Journal of Obstetrics and Gynæcology of the British Empire, Summer Number*, 1922, on a series of eight cases of the rather rare condition of general œdema of the fœtus. Ballantyne has defined it as "a rare condition of the fœtus characterized by general anasarca, by the presence of fluid effusions in the peritoneal, pleural and pericardial sacs and usually by œdema of the placenta and resulting in the death of the fœtus or infant before, during or very soon after birth."

Toxæmia, syphilis, manifest renal diseases and anæmia have been mentioned as maternal causes of the condition. In the case now being reported all of the above conditions except mild toxæmia can be excluded. Paternal causes mentioned include syphilis, œdema and icterus, alcoholism, anæmia and lead poisoning and they can all be excluded in this case.

Mrs. G.A., *ætatis* thirty-eight years, engaged me on September 1, 1922, to attend her in her fourth confinement expected about December 15, 1922. She has three healthy children. The second child was born about four months after the husband went on active service. The third baby was born after the father's return from the war. She had no trouble during pregnancy and the baby was born before the doctor arrived.

When I was engaged, Mrs. A. told me she had not had a very good time so far, but she did not look sick.

I examined a specimen of urine at the time of engagement and it was normal.

On the evening of October 17, 1922, I tested another specimen of urine and found it contained a definite cloud of albumin. I visited the patient the same evening and found her in bed complaining of some shortness of breath and headache. There was œdema round the ankles. She was treated as suffering from threatened eclampsia by the Rotunda method. I ordered thirty cubic centimetres (one ounce) of castor oil to be taken at once. She was given only water and barley water to drink.

On October 19, 1922, she was better and the œdema had disappeared.

On October 21, 1922, she was still feeling better.

At 7 a.m. on the following day I was sent for as she was in labour. On examination I found that the *os uteri* was dilated to the size of a two shilling piece and I was not sure of the presentation. Before leaving I listened to the patient's heart and I was dismayed to find she had a mitral regurgitant murmur, fortunately well compensated. She denied ever having had rheumatic fever. On account of the cardiac condition and the albuminuria I decided to use ether at the delivery.

[1] Read at a meeting of the Western Suburbs Medical Association, New South Wales, on June 21, 1923.

At 9 a.m. I went to the patient again and found a knee presentation which I converted to a footling. I sent for a colleague to give the anæsthetic, but the fœtus was born before his arrival.

There was no trouble in getting the two legs down, but I had some difficulty in delivering the big pot-bellied trunk. The after coming head was delivered easier than the body.

The fœtus which appeared at first a monstrosity, as no eyes nor ears could be seen on account of the extensive œdema, took two or three very faint breaths and breathed no more.

The placenta was exceptionally large and heavy with large cotyledons and to the naked eye showed fibrotic changes. It was paler in colour than normal. I was granted permission to take the specimen to the Medical School.

On examination of the fœtus there was found considerable œdema of the thighs, anasarca, a large area of œdema over the left pectoral region as well as about the face and ears.

I am indebted to Dr. F. A. Maguire who was acting Professor of Anatomy at the time, for suggestions as to the fœtal condition and literature and to Mr. L. Schaefer, of the Anatomy Department, for the photograph.

Figure.
Showing Fœtus with General Œdema.

Reviews.

SOME SURGICAL ESSAYS.

It is with pleasure that we have read the "Papers and Addresses in Surgery" of Mr. Hamilton Russell. Many of the papers are known to us already, but the collection in chronological order is particularly interesting as it allows us to trace the development of a great idea from its birth to maturity.[1]

It was at the Brisbane Congress in 1899 that he stated his belief that oblique inguinal hernia was always of congenital origin, never acquired. When an oblique hernia appeared, it meant that a sac, the unclosed funicular process which had been present from birth, had been occupied by some part of the abdominal contents. The empty house had received a tenant. Holding that the preformed sac was the cause of the hernia and that the muscular arrangement of the inguinal canal formed a sphincter, it was but logical for Russell to maintain that complete removal of the sac was all that was necessary for the cure of the hernia. He has gone further and has stated that suturing of the internal oblique muscle does no good, but harm. Many surgeons will not subscribe to this view. The present classification of inguinal hernia is not satisfactory to Russell. The terms "congenital and infantile" he considers have an erroneous meaning in their present application and with this we are in accord. He prefers the term partial and complete funicular, the latter representing the so-called congenital herniæ. The peculiar form of hernia called infantile encysted or Hey's hernia is explained simply and satisfactorily by Russell as a developmental accident to the *tunica vaginalis* by which it has become anchored to the region of the external ring. The proximal part of the *tunica* is pulled up in front of the cord to the external subcutaneous ring, while the funicular process, instead of opening into the apex of the pulled out *tunica*, opens well down on its posterior wall. Consequently, if the funicular process does not close at all, a condition remains which may produce an enormous hernia owing to the enlarged *tunica*. If the funicular process becomes shut off from the *tunica*, but remains patent for the remainder of its length, there is left an elongated *tunica* completely shut off from a patent funicular process lying behind it, so that to open the latter it may be necessary to pass through both anterior and posterior walls of the *tunica vaginalis*. This explanation is simpler and more natural than that of Lockwood's, which is the usual one of the text-books. This adhesion theory of the developing funicular process, that it may become attached to the abdominal wall, is used by Russell to explain the varieties of hernia called pro-peritoneal, intra-parietal and superficial inguinal, the type produced depending upon the position of the adhesion and consequent pulling out of a diverticulum from the funicular process. Russell has not been content to limit the persistent peritoneal process or saccular theory to inguinal hernia. He has extended it to include femoral hernia and the rarer forms of sciatic and obturator herniæ. In such an explanation of these herniæ he may find some opposition, but when we consider the shape of the crural canal which is a standing invitation for the development of an acquired hernia, we are surprised that femoral hernia is not more common. In discussing the path taken by a femoral hernia he regrets the anatomical explanation of text-books, such as the attachment of Scarpa's fascia to the *fascia lata* and holds that the hernia owes its situation to the position of the sac which lies there ready to receive it, the sac having during its development followed one of the superficial branches of the femoral artery or the main artery itself. In the treatment of hernia in children Russell strongly and we believe rightly urges early operation. Treatment by means of a truss he states never cures a hernia. Whatever a truss may do in restraining the abdominal viscera from entering a hernial sac, it never causes the disappearance of the sac into which a hernia may pass years later.

In the various papers on fractures we find the same bold presentation of his ideas as was found in those on hernia. In fractures near or involving joints he vigorously protests against passive movement. In fractures near or involving a joint without gross misplacement of the fragments stiffness of the joint never supervenes except as the result of passive movement carried out by the surgeon. Consequently in such fractures Russell immobilizes the fracture for four or five weeks, when the limb is freed of retention apparatus and left to itself. After this it will be restored to its full function by the gradually increasing active movements performed by the patient. Passive movement according to Russell tends to produce excessive callus. Hamilton Russell does not favour open operation in the treatment of fractures except in rare cases. Lucas Championnière's method of early massage is not followed either, but Russell strongly urges the frequent inspection of fractures by removing the splints, if necessary, to give a clear view of the site of the injury. We find some difficulty reconciling Russell's account of the physiology of muscles (see page 234) with his law governing the action of muscles (page 234). He compares muscular tissue to elastic bands which, immediately a bone is broken, shorten and produce overlapping and continue to

[1] "Papers and Addresses in Surgery (Selected and Revised)", by R. Hamilton Russell, F.R.C.S. (England); 1923. Melbourne: Allan Grant; Demy 8vo., pp. 452, with coloured frontispiece and sixty-nine figures in the text.

do so until the bone is united firmly. On page 254 he states that "there is a general belief that the main element of difficulty and in the production of malposition is to be found in the muscles which pull the fragments into faulty positions. If this be so, what is the reason why the muscles after a fracture has occurred should suddenly become possessed by an insane desire to assume a position and pose that is foreign and abnormal to them? There is no such reason and if there is one thing above all others that muscles never do, it is to behave in this way." Later on he formulates a law governing the actions of muscles in fractures of the leg. This law is that all muscles will do their best to restore the fragments to the position they occupied prior to the injury, that being the only way in which the muscles can resume their normal state and pose. This has not been our experience.

There are other papers in the volume dealing with intussusception, hip disease, excision of the urethra, cleft palates *et cetera*.

Russell's writing as shown by these collected papers is characterized by vigour and originality. His ideas are often contrary to the conventional teachings of the period and in the case of inguinal hernia we think he has established his theory. In regard to the teaching of the action of muscles in fractures of the leg many may not agree with him, but none will peruse any of his papers without much advantage.

ORTHOPÆDIC SURGERY.

IN "Surgery of the Spine and Extremities" by Dr. R. Tunstall Taylor[1] a very good résumé of the scope of modern orthopædic surgery is given. The opening chapter deals with a history of orthopædic surgery from the time of Hippocrates to the period when the first chair was established in America in 1861 and onward through the period of growth of the speciality to the present day.

The technique of the use of plaster of Paris and of braces and splints for fixation, extension and support are concisely dealt with and there is an excellent chapter on surgical mensuration in which the author describes how scientific records can be taken of the progress of a patient by precise measurements of the range of movement at joints and of the length and circumference of limbs and the curves of the spine.

The diseases of joints and the spine constitute more than one-half of the subject matter of the book and are dealt with in much greater detail than the other conditions described. Tuberculous disease of the spine is particularly well described in its pathological, clinical and therapeutic aspects.

Regarding cold abscesses the author is opposed to Calot's methods of repeated aspiration and injection of antiseptic fluids and is very confident in his statement that: "Of the operative procedures for the treatment of cold abscesses, the knife is by all odds the most satisfactory means to employ." This point is still a controversial one and, while many authorities maintain that antiseptic fluids injected into a cold abscess have little or no effect, many surgeons resort to incision only when the abscess spreads in spite of repeated aspiration.

The chapters on infantile paralysis and spastic paralysis are short, but form a useful résumé of present knowledge on the subject.

The use of tendon transplantation to periosteum and bone in infantile paralysis involving the muscles controlling the foot is assessed by the author at a higher value than the majority of modern orthopædic surgeons assign to it, but the description of the operation and the details of technique given by the author are well worthy of study.

The orthopædic surgery of injuries is not dealt with in any detail, but there is a very good chapter on supporting and traction apparatus which is clearly written and illustrated by excellent drawings.

The concluding chapter of the book is a monograph in itself on the reconstruction of the hand and is one of the finest parts of the work. The author has made a special study of this branch of reconstructive surgery and he goes into minute details of the technique developed by him and describes the ingenious instruments which he has designed for his work.

When it is remembered that an arm without a useful hand is little more than an ornament, the subject matter of the concluding chapter of the work will be widely welcomed. The book throughout is freely and well illustrated, to a large extent by original photographs.

THE TRAINING OF OBSTETRIC NURSES.

A SECOND edition of "Obstetrics for Nurses" by Charles B. Reed, M.D., has lately been published.[1]

This book was designed to serve for class instruction and at the same time to be complete enough for post-graduate reference. It starts with a description of the anatomy and physiology of the pelvic organs and continues with an account of normal and abnormal pregnancy, labour and the puerperium. Operations, complications in labour and the puerperium and infection are then dealt with. The final chapters are devoted to the care of the child, infant feeding and a list of diets and formulæ are given.

In our opinion this book does not go into sufficient detail to enable us to recommend it as the text-book for nurses during their course of training. Certain parts appear to be inadequate. In the first place there are those dealing with the anatomy of the bony pelvis. Then the description of how to manage a normal labour and how to avoid perineal lacerations is inadequate. The remarks on the management of a normal breech case are far too brief. There is no definite teaching of how to perform abdominal palpation and of what can be learnt from this. There are other portions on which opinions vary to some extent and which might have been dealt with at greater length.

As a book for post-graduate reference, more especially for those nurses who work mainly in conjunction with a doctor, it should be of value. It contains a great deal of very useful information on what might be termed the general nursing of obstetric patients and the chapters on the care of infants and the diets *et cetera* should be very helpful.

PHYSIOLOGICAL TESTS AND ESTIMATIONS.

"PRACTICAL CHEMICAL PHYSIOLOGY" by Dr. W. W. Taylor is a book containing sixty-eight pages and in this space the author purports to give all the practical biochemistry necessary for a medical student.[2] It is merely a collection of tests and estimations of the usual type seen in the older books on chemical physiology, not arranged in any very logical order, not very detailed and often not clear. No indications are given as to the meaning or value of the various tests nor of pitfalls which the student may meet. It is purely a laboratory manual and as such is no doubt useful in the school from which it emanated. It can be of very little use elsewhere. In the range covered the tests are well selected, but any teacher should be able to make his own selection.

[1] "Surgery of the Spine and Extremities: A Text-book for Students and Practitioners," by R. Tunstall Taylor, B.A., M.D., F.A.C.S.; 1923. Philadelphia: P. Blakiston's Son and Company; Royal 8vo., pp. x. + 550, with 604 illustrations. Price: $7.50.

[1] "Obstetrics for Nurses," by Charles B. Read, M.D.; 1923. St. Louis: C. V. Mosby Company; Post 8vo., pp. 400, with 144 illustrations, including two coloured plates. Price: $3.50 net.

[2] Practical Chemical Physiology," by W. W. Taylor, M.A. D.Sc.; 1922. London: Edward Arnold & Company; Crown 8vo., pp. 71. Price: 4s. 6d. net.

CLINICAL NOTES FOR MEDICAL PRACTITIONERS.

THE second edition of "Clinical Memoranda" by Brand and Keith is to hand.[1] In this edition the subject matter has been entirely re-arranged and the articles are grouped under the various systems, nervous and special sense organs, respiratory, circulatory *et cetera*. A very complete index has been appended to facilitate reference to any subject treated. The book is an excellent collection of articles on commonplace as well as more unusual matters in the realms of surgery, medicine, obstetrics and therapeutics. Some small details, however, require correction. The terms "Eucaine," "Veronal" and "Antipyrine" are still used in place of the official designations benzamine, barbitone and phenazone. In any case "Antipyrine" should be spelt without the terminal "e." The authors correctly deplore the use of incorrect Latin in writing prescriptions and then include one which is a queer mixture of English and Latin. Severe strictures are passed upon the incorporation of potassium bromide and solution of strychnine hydrochloride in the one mixture. As a matter of fact hydrobromide of strychnine would be formed, which is actually soluble to the extent of one in fifty-five. This prescription is not uncommon in Sydney and gives rise to no pharmaceutical difficulties. Also the obsolete designation of hyoscine hydrobromate in place of the correct hydrobromide is used. Solution of strychnine hydrochloride is neutral and not acid as stated in the book. In carbolic acid poisoning after the poison has entered the system saline infusion with sodium sulphate is recommended, "so as to form the innocuous sulpho-carbolate." This is quite wrong pharmacologically and quite useless in practice. Few physicians will agree with the statement that "Urticaria will almost invariably yield to the patient use of an alkali and quinine." The external application of iodine to the thyreoid in Graves's disease, recommended in the book, will certainly not gain universal approval. Amongst the aphorisms in different places occur the following two statements which require some slight reconciliation: "Epilepsy commencing after the age of thirty in nine cases out of ten is due to syphilis (Fournier)" and "Epilepsy beginning after forty usually means *dementia paralytica* or cerebral arterio-sclerosis."

CLINICAL PATHOLOGY AND BACTERIOLOGY.

So popular has E. R. Stitt's book on practical bacteriology, blood work and animal parasitology been, that it has in the course of a few years run to its seventh edition and is now becoming rather bulky[2]. The present edition contains seven hundred and sixty-six pages, an increase of one hundred and thirty-two pages on the sixth edition. When last reviewed in these columns it was very favourably compared with Emery's manual. Amongst new matter is a section on problems of nutrition in health and disease and tables are given dealing with analyses of diets and the vitamin contents of various foods. Various flocculation tests for syphilis are described and compared with the Wassermann test. Noguchi has contributed a description of his own technique for the latter test. The Jansky classification of blood groups is given preference to that of Moss. Diphtheria is well handled and there is an informing discussion on antitoxin and the Schick test. A large amount of space is reserved for metazoan parasites and animal carriers of protozoan and bacterial parasites. The book is profusely illustrated. There is a too brief paragraph on the bacteriophage or the Twort-d'Herelle phenomenon. In the appendix are many useful tables of physiological normals *et cetera* and descriptions of laboratory methods.

[1] "Clinical Memoranda for General Practitioners," by Alex. Theodore Brand, M.D., C.M., V.D. and John Robert Keith, M.A., M.D., C.M.; Second Edition; 1923. London: Baillière, Tindall and Cox; Crown 8vo., pp. 389. Price: 7s. 6d. net.

[2] "Practical Bacteriology, Blood Work and Animal Parasitology, Including Bacteriological Keys, Zoological Tables and Explanatory Clinical Notes," by E. R. Stitt, A.B., Ph.G., Sc.D., LL.D.; Seventh Edition, Revised and Enlarged; 1923. Philadelphia: P. Blakiston's Son and Company; Sydney: Angus and Robertson, Limited; Post 8vo., pp. xv. + 766, with 197 figures. Price: 25s. net.

THE SEXUAL PROBLEMS OF MARRIAGE.

DR. ISABEL EMSLIE HUTTON'S book "The Hygiene of Marriage" is written to minimize a great deal of the unhappiness, anxiety and general ill-health of married people.[1] It is the common experience of many medical practitioners that there is much misery and misunderstanding consequent on ignorance of the physiological processes which are called into being with advent of marriage. Dr. Hutton treats the subject in a comprehensive way. She devotes a chapter to the factors which should be considered before marriage is contemplated. Sections are written on the health of the man, the health of the woman, venereal diseases, heredity, insanity, epilepsy and alcoholism. She discourses on consanguinity, continence before marriage, the sex instinct, age and economic conditions. She states that if there is any doubt as to whether a man and a woman should marry, a definite opinion should be sought from a medical adviser. It would be better to do this at the start than allow lay people to create worries for themselves by the perusal of much that is written in these pages. The chapter on the consummation of marriage is written in a clear and practical manner and will supply information that may be wanted on this subject. The chapters on married life, birth control and contraceptives are treated in much the same way.

We cannot help feeling that there is a very limited sphere of usefulness for this book. The family practitioner will be able to approach the individual problem in a much more human way than can be done in a book of this kind. He will be able to bring his judgement and discrimination to bear on any difficulties that may arise and by his patient understanding of the individual lead him or her on to the right track.

HYGIENE AND PUBLIC HEALTH.

THE seventh edition of Parkes and Henwood's "Hygiene and Public Health" is well up to the standard of its predecessors and is, as far as we know, quite the most readable small text-book on the subject published in the British Empire.[2] Its appearance is very welcome. The sixth edition was brought out in 1917 and was in some respect not quite up to date. The advance in hygienic knowledge and practice since that time has been remarkable. A practical improvement in the current edition is the omission of the chapter on sanitary law and administration. This has permitted the addition of much new matter without increase in the size of the volume. To attempt a useful review of so extensive and important a subject as the law of public health in a single chapter is obviously out of the question and as this handbook is largely used through the dominions, everyone of which possesses a distinctive public health code of its own, the authors have been fully justified in the omission. A new and welcome feature in this edition is a chapter on industrial hygiene. In our opinion this might have been fuller in view of the prominence which this branch of public health is rapidly attaining. The description offered of the kata-thermometer and its applications is rather sketchy and could with advantage have been considerably amplified.

For the candidate for the diploma in public health this manual, supplemented of course by monographs on special subjects, is excellent. It will not give him all he requires, but it will supply him in a most readable form with a general review of the whole of his subjects and the views set forth are sound. Every general practitioner in rural districts should have the book in his library for reference.

[1] "The Hygiene of Marriage," by Isabel Emslie Hutton, M.D.; Foreword by Professor A. Louise McIlroy, M.D., D.Sc., O.B.E.; 1923. London: William Heinemann (Medical Books), Limited; Crown 8vo., pp. xii. + 112. Price: 6s. net.

[2] "Hygiene and Public Health," by Louis C. Parkes, M.D., D.P.H. (Univ. of London), Lieutenant-Colonel R.A.M.C. (Temp.) and Henry R. Kenwood, C.M.G., M.B., F.R.S. (Edin.), D.P.H. (Lond.); Seventh Edition; 1923. London: H. K. Lewis and Company, Limited; Demy 8vo., pp. 794, with 90 illustrations. Price: 20s. net.

The Medical Journal of Australia

SATURDAY, MARCH 8, 1924.

The Mathison Lecture.

The custom of commemorating the work and achievements of eminent medical practitioners has been long established in the old country. In Australia it is scarcely started, although no more gracious means could be found of paying tribute to those few men who have left a valuable legacy to medicine. In last week's issue we published the first lecture dedicated to the memory of Gordon Clunes McKay Mathison. The determination of the University of Melbourne to gather together a sufficient sum of money from those who know and place a high value on Mathison's work, needs no commendation. Mathison was one of Australia's most brilliant graduates in medicine. The loss to the world by his untimely end is as real today as it was in the first half of 1915 when the news reached Australia. He was a rare genius; a gift of the gods.

Professor Osborne's choice of subject is as happy as is his manner of handling it. Not only is it meet that the first Mathison Lecture should concern the subject that attracted Mathison before all others, but it is singularly appropriate that the lecturer should also associate with the name of his old pupil a chapter in physiology or let us say medical chemistry that is of immense importance to the proper understanding of the body in health and disease and yet is of a nature that it will not become a theme of popular interest to be misunderstood and garbled as do all scientific matters when committed to the care of the daily press. The title is well chosen, in that Professor Osborne insists that his lecture represents merely "some new aspects of respiration." In other words it is an interim report and much work has still to be carried out before the physiology of respiration is thoroughly understood. It is not necessary to discuss the new aspects because this is so admirably done by the lecturer. There is, however, one interesting criticism that may be permitted. In the year 1885 Ehrlich dealt with the oxygen requirements of the body and enunciated the hypothesis that the cytoplasm or main constituent of cells is composed of protoplasm which contains no free oxygen, and paraplasm which is the oxygen carrier of the body. He produced much suggestive evidence in favour of this view and, as was his wont, postulated somewhat extensive functions of these two divisions of cell bodies. No one has been able to disprove this hypothesis during the thirty-nine years since Ehrlich published them. But it may be said that few have remembered them in recent times. Ehrlich assumed that ærobic bacteria necessarily died when included in true protoplasm and he conceived the idea that protoplasm under certain circumstances gradually acquired the property of attracting bacteria from paraplasm, thus effecting their destruction. After all this time we find the physiologist dealing with the same problem from a different point of view and arriving at practically the same result, again from a totally different method of argument. Professor Osborne speaks of the frontier of oxygen in the cell. He points out that there is a physiological function in the cell which depends on something different from oxygen. He surmises that in some remote part of the cell there may be an area in which oxygen is not present and where it might even be harmful. If Ehrlich's hypothesis be correct, the true protoplasm renders part of the cell oxygen-free. Since this constituent has no affinity for oxygen, it is a little difficult to understand how oxygen could be hurtful to it, although it may be that when the oxygen tension of paraplasm is raised above the upper physiological limits, some disintegrating action might be exercised on the true protoplasm. Be this as it may, the fact of interest is that Ehrlich's forgotten hypothesis has become so strangely revived.

The first Mathison Lecture should do more than teach the profession something new concerning respiration. It should be a powerful stimulus to those with ability and genius for research to realize that it is their duty to utilize that ability and genius for the advancement of knowledge and the ultimate benefit of mankind. In Australia members of the medical profession are very prone to seek a lucra-

tive practice and the laboratory holds out small attractions. It would be well for those with the right type of mind to remember that we have no right to waste Nature's gifts for our own personal gain. Mathison showed the way for others to follow. Australia needs all the research workers she can muster to gather knowledge for its own sake.

THE BRITISH MEDICAL JOURNAL.

In our issue of last week we published at the request of the Victorian Branch of the British Medical Association a letter addressed by Dr. Alfred Cox, the Medical Secretary of the British Medical Association, to the Secretary of the Victorian Branch. The letter in question was a reply to a suggestion that it might be possible to discontinue sending *The British Medical Journal* to certain senior members of the Association and those retired from practice and to reduce in proportion the Association subscription payable by those members.

Dr. Cox's letter is a clear and straightforward statement which should be read carefully by every member of the British Medical Association in Australia. There is little to be added to what he has written. It is obvious that no other reply could have been made. If once concessions of the kind requested were made, it would be impossible to foretell where such a precedent would end and to what difficulties it might lead.

Although *The British Medical Journal* is the medium of communication between the executive of the Association and its members and although the medico-political aspect of its publications are of great importance, it must be remembered that the primary object of the journal as of the Association itself is scientific. *The British Medical Journal* occupies a very high place among the medical journals of the world. The scientific value of the large proportion of the original articles found in its pages is very great. The opinions expressed in its editorial pages are authoritative and in the section devoted to the epitome of current medical literature are found references to most of the medical papers of importance emanating from different parts of the globe. It is hard to find its equal as a book of reference, not only in regard to recent advances in medical knowledge, but also as a museum of medical history and biography. The members of the British Medical Association in Australia are in virtue of their membership well served with medical journals.

Current Comment.

OSTEO-ARTHRITIS AND RHEUMATOID ARTHRITIS.

The varied nomenclature of chronic lesions of the joints, the many classifications and the widely divergent forms of treatment that are applied to them are ample evidence of the imperfection of knowledge in regard to their ætiology and pathogenesis. In any discussion on chronic joint lesions the participants frequently appear to be talking at cross purposes, for no clear conception has been formed of the place occupied by the disease they are discussing, in the group of joint lesions as a whole. Moreover, it frequently occurs that each speaker has in mind either a different lesion or a different manifestation of the same lesion. It has apparently yet to be determined whether osteo-arthritis and rheumatoid arthritis are entirely separate entities or whether they are merely different manifestations of the same infections. It is by no means certain that rheumatoid arthritis is itself a single clinical entity. It has been claimed that different types of arthritis result from the infection caused by clinically allied bacteria that are probably mutations of the same causal organism. It has, moreover, not been excluded that the same bacterium may awaken a different response in different organisms. The subject of local foci, too, has been brought into great prominence in these diseases and in the opinion of many the use of vaccines in this connexion has been overdone. The whole matter was recently the subject of an interesting discussion at the Royal Society of Medicine.[1] The views expressed by the several speakers indicate clearly the present state of knowledge of the subject.

Sir Archibald Garrod in opening the discussion expressed the opinion that osteo-arthritis and rheumatoid arthritis were distinct morbid entities. Osteo-arthritic conditions characterized by erosion of cartilages, the formation of osteophytes around the articular surfaces, the eburnation of the bony surfaces and the like might result from any form of articular disease if it were of sufficiently long standing. The joints attacked in rheumatoid arthritis were not the same as those attacked in osteo-arthritis. The deformity in osteo-arthritis was due to the bony outgrowths; in rheumatoid arthritis it was due to muscular contracture. He expressed the opinion that one of the recent advances in knowledge was the wider recognition that more than one malady had been confused under the name rheumatoid arthritis. In regard to the pathogenesis, Sir

[1] *Proceedings of the Royal Society of Medicine*, November, 1923.

William Arbuthnot Lane had laid stress on the part played by wear and tear on the joint surfaces in the causation of osteo-arthritis. He agreed that these influences might play a part, but thought that there was also some congenital or acquired cause at work. One interesting piece of evidence bearing on this point was the peculiar liability of persons with alcaptonuria and ochronosis to become affected with osteo-arthritis later in life. In regard to rheumatoid arthritis he raised the question as to whether there were any one specific disease to which the name might be applied or whether the condition was a syndrome which might originate in infections by several kinds of bacteria. It was generally acknowledged that the malady was an infective one. In some instances an obvious septic focus might be found, but in the great majority careful scrutiny failed to reveal any such focus. Sir Archibald Garrod said that there were two lesions which bore a great superficial resemblance to rheumatoid arthritis. One of these was seen in the peri-arthritis and the arthritis that often developed in cases of acute bacillary dysentery; recovery generally occurred when the bacillary infection subsided. The other was the arthropathy which sometimes accompanied psoriasis. In discussing treatment, he said that he had not seen an instance of improvement after the use of vaccines. An attempt should be made to find a local focus. Treatment by protein shock undoubtedly gave relief, but it did not seem that the results were permanent.

Dr. Maurice Cassidy began his remarks by saying that it was his profound conviction that the importance of infective conditions in the ætiology of these diseases was grossly over-rated. Particularly was this the case with rheumatoid arthritis. In his experience it was uncommon to find a septic focus in a genuine case of rheumatoid arthritis. Some years previously he and Mr. Percy Sergent had examined microscopically and bacteriologically small fragments of synovial membrane removed during life from rheumatoid joints. In only one out of fifteen had an organism, a streptococcus, been recovered. He had always suspected that this one positive result had been due to contamination by the skin. He felt that there was no evidence that rheumatoid arthritis was due to septic absorption and was a little sceptical as to whether it was infective in origin at all. The only common complication was fibrositis and there was a familial occurrence about these two conditions. He often wondered whether both conditions were not metabolic in origin rather than infective. These opinions had reference only to genuine rheumatoid arthritis. He admitted that there was a large group of instances of chronic infective arthritis which might resemble rheumatoid arthritis at some particular stage of the disease. In this group an infective focus was often demonstrable. In the treatment of rheumatoid arthritis teeth were removed and vaccines were given, but he had not seen the relentless course of the disease arrested by these means. What he had said of rheumatoid arthritis held good for many cases of osteo-arthritis. Some cases were undoubtedly of infective origin, but he held that some osteo-arthritic joints were primarily gouty though they had never been attacked by typical acute gout.

Dr. E. J. Poynton referred to the experimental production of osteo-arthritis. Experiments with the rheumatic organism had elucidated the fact that different types of arthritis might result from the same infection when that infection differed in virulence. It appeared to him that just as a particular streptococcus might cause acute rheumatism, so very possibly some staphylococcus might be the cause of rheumatoid arthritis. He remembered that the streptococcus of rheumatism if cultivated on various solid media might become indistinguishable morphologically from a staphylococcus and he wondered whether in human diseases there was any essential line to be drawn between the streptococci and the staphylococci. The idea of a local focus carried with it a dangerous simplicity. It was really a complex problem, for it involved the entire question of the behaviour of infections within the body; of the methods of resistance of the body to infections and the influence of outside factors such as diet, climate, occupation, nerve strain and so forth. In regard to vaccines he held that their use was indicated when there was an obvious and harmful focus from which an organism was isolated in pure or almost pure culture.

Dr. Arthur F. Hurst was convinced that septic foci were always present, though they might in some instances be very difficult to discover. Primary infection generally occurred in the teeth. Subsequently the intestines became infected. In this connexion it was important to look for achlorhydria which was frequently present. He referred to the findings of several observers in this regard and said that in individuals with deficient gastric secretion the intestine rapidly became infected from the mouth and pharynx. In regard to treatment, rest was most important in the acute stages. Later on when the acute phase had passed off and no tenderness was present, rest was no longer required. Re-education, manipulation and massage often resulted in the recovery of the use of limbs which were apparently ankylosed.

Dr. T. S. P. Strangeways demonstrated pathological specimens in order to show that there were at least six types of arthritis included under the term rheumatoid arthritis. They were the capsular, dry, adhesive, rarefying, villous and infective types. The capsular type was characterized by changes confined to the capsule of the affected joint. The synovial membrane was not much altered and the bony surfaces were not affected. Apparent recovery might occur, but relapses usually followed and the patient became more helpless and crippled. In the joints of the dry type the characteristic change was the absorption of the synovial fluid which in the later stage of the disease was entirely absent. The capsule became atrophied and contracted and gripped the bones of the articulation firmly so that the articular surfaces lay in close contact with one another. There was no swelling of the joints, but as the disease advanced movement became difficult and a diagnosis of bony ankylosis was frequently made. The adhesive type

began with inflammatory changes in the synovial membrane and capsule. These changes were associated with the formation of a granulation tissue which spread over the cartilage and become adherent to it. The cartilage and underlying bone were invaded. Adhesions and ankylosis followed. Females were usually affected, the disease became quiescent and the patient remained permanently crippled owing to joint changes. In the atrophic type the bones of the affected joint were greatly rarefied and eventually the cancellous tissue was replaced by pure fat. In the early stages inflammatory changes took place in the capsule and as these subsided bony ankylosis of the larger joints often occurred. In the later stages of the disease atrophy of the limbs, especially of the hands, was a feature. This type was confined to the female sex and the patients were generally well nourished and cheerful. The villous type was seen in both male and female patients. There was swelling of the affected joints which felt soft and full of fluid. The swelling was chiefly due to the presence of a number of smaller or larger pedunculated villi. These might be so numerous that the whole surface of the synovial membrane was covered with them. It was in this type of joint that melon seed bodies were seen lying in the joint cavity. The cartilage might show signs of atrophy and the bones of the articulation were normal. The infective group included cases which were usually diagnosed as rheumatoid arthritis, but in which the arthritis was due to some definite organism. Examples of this type were those obscure forms due to the gonococcus, the pneumococcus or various types of the dysentery bacillus. Clinically the condition might resemble the adhesive type, but the history and clinical symptoms would usually render it possible to make a provisional diagnosis of infection.

THE ORIGIN OF BILIRUBIN.

SEVERAL different views are held in regard to the site of origin of bilirubin. It was for many years commonly believed that it was formed in the liver. Virchow by his observation in regard to the formation of hæmatoidin crystals in extravasations of blood into the tissues of the body demonstrated that bilirubin could be formed in extra-hepatic situations. Hæmatoidin is identical with bilirubin. Although this observation is of great value it is not of material assistance in elucidating the various forms of non-obstructive jaundice. A knowledge of the place of formation of bilirubin would throw light on these conditions and help to determine the part played by the liver in their pathogenesis.

Among the investigators into the origin of bilirubin were Minkowski and Naunyn. These two observers carried out a series of experiments on birds. The circulatory system in birds is so arranged that the liver can be removed without interfering with the venous outflow from the gastro-intestinal tract. They found that a severe hæmolysis was caused in normal birds by the inhalation of arseniureted hydrogen and that a large amount of bile pigment was subsequently found in the urine. With hepatectomized birds the same hæmolysis occurred, but the urine either remained entirely free from bile pigment or else contained only minute quantities. The presence of these minute quantities was ascribed to the fact that in no instance were they able to remove the entire liver. It was also thought possible that a certain amount of resorption had taken place of bile which had of necessity escaped into the peritoneal cavity during the process of the experiment. As a result of this work it was held by many that the liver took an active part in the conversion of circulating hæmoglobin into bile pigment. Löwit as a result of his investigations held that the cells most active in this regard were the Kupffer cells of the liver and not the liver cells proper. McNee subsequently came to the same conclusion. Since cells similar to the Kupffer cells could be found in the spleen and bone marrow, McNee thought that the activity of these cells might be partly responsible for the small amount of bile pigment found in the urine of birds after removal of the liver. Whipple and Hooper also investigated this question. Their conclusion was exactly opposite to that of Minkowski and Naunyn, for they maintained that the liver is not necessary for the formation of bile pigment from the circulating hæmoglobin. They sought to exclude the liver from the circulation of dogs by the production of an Eck fistula combined with ligation of the hepatic artery and by the establishment of a "head-thorax" circulation. They endeavoured to confine the circulation to the head and thorax by ligation of the aorta just below the subclavian artery. They ligated it again at the level of the cœliac axis artery and included the latter in the ligature. The inferior *vena cava* was also ligated above the diaphragm as were also the mammary vessels in the thorax. Finally they ligated the abdominal muscles at the costal margin. Having determined that the blood plasma was entirely free from bilirubin they introduced laked red blood corpuscles into the jugular vein. At the end of two hours bilirubin was invariably found in the blood plasma. The conclusion which they formed, was that the pigment was actually formed by the vascular endothelium.

Dr. Arnold R. Rich has recently investigated this subject.[1] He points out that in Whipple and Hooper's experiments the liver was actually left within the body. In order to dissipate any uncertainty in regard to the part played by the liver in the formation of bilirubin, he determined to extirpate the liver and study the fate of hæmoglobin introduced into the body. In all his work he used full-grown healthy dogs. It was found a difficult matter to keep dogs alive in good condition after extirpation of the liver. Dr. Rich describes in detail the method used by him. In this operation the stomach, pancreas, intestines and spleen were removed. Both kidneys and the liver were removed. Warm towels were placed in the abdominal cavity and the abdomen was closed. It had previously been determined that the dog's plasma was free

[1] *Bulletin of the Johns Hopkins Hospital*, October, 1923.

from bilirubin. Normally there is no bilirubin in the plasma of a dog. Laked blood corpuscles were then introduced into the jugular vein. This was done in the case of eight dogs which survived for periods from one to six hours. Death generally occurred suddenly from cardiac failure. The blood was examined every half hour during the course of the experiments. Control tests were carried out on sera known to contain bilirubin. In no instance was even a trace of bilirubin found in any sample of blood taken either during or at the end of the experiments. No trace of bile pigment was found in the fatty tissues as had been found by Whipple and Hooper.

The next problem which Dr. Rich set out to determine was whether it was possible by means of Whipple and Hooper's method to exclude the liver from the circulation. In order to do this he injected India ink into the jugular veins of six dogs prepared according to Whipple and Hooper's method. In a few moments the ink became visible to the naked eye in the lobules of the liver. At autopsy all the ligatures were found to be intact and to occlude completely the lumina of the vessels. He concluded that the way in which the communication with the liver was maintained in these circumstances was through the diaphragmatic vessels which enter the substance of the liver in the region of the hepatic veins. This was proved by removing the stomach and intestines, spleen and pancreas *in toto* so that the liver was left attached alone by its connexion with the diaphragm. Ink injected into the aorta just below the aortic valves promptly appeared in the liver. In one instance ink injected below the subclavian artery appeared in the diaphragm and found its way into the liver. The pathway in this case lay through the intercostal vessels. In a similar way after ligature of the *vena cava* and injection of ink into the portal vein it was shown that there was an adequate venous return from the liver by way of the diaphragmatic vessels. Dr. Rich also found that the Kupffer cells of the liver could continue their phagocytic action when the liver was supplied only by the diaphragmatic vessels. Particles of India ink were ingested by these cells when the animal had rested for half an hour after the "head-thorax" circulation of Whipple and Hooper had been produced. He also found that the liver could be excluded from the circulation when the *vena cava* was tied just below instead of just above the diaphragm. Dr. Rich states that the absence of bilirubin could in no wise be ascribed to the severity of the operation undertaken by him as compared with that undertaken by Whipple and Hooper. He emphasizes the fact that in each of his experiments the animal's pulse was strong up to the point of death, the mucous membranes were pink in colour and the conjunctival reflex active. In one instance the animal had to be killed six hours after the performance of the operation.

In discussing the significance of his experiments Dr. Rich states that he feels it is necessary to abandon the belief that there exists a facile and ready mechanism for the transformation of circulating hæmoglobin into bilirubin outside the liver. He adds that it is impossible to state whether cells outside the liver such as those of the spleen or bone marrow can gradually take over the function of bilirubin production. He does not regard his work as presenting any definite evidence that the hepatic cell is capable of producing bilirubin. It may be that this power belongs to the Kupffer cells and that the cells of the liver have only an excretory function in regard to bilirubin. He states specifically that his experiments are concerned only with circulating hæmoglobin and are in no way applicable to hæmoglobin liberated into the tissues from extravasated blood. This remains a subject for study.

METASTATIC TUMOURS OF BONE.

During the past twelve months the metastatic tumours of bone have been discussed in the pages of this journal on several occasions. Piney's important work on the subject and his views on dissemination by the blood stream in opposition to those held by Sampson Handley on lymphatic permeation have been set forth in some detail. Reference has also been made to the work of Joll.

Dr. J. R. Broster has recently reported the findings in a case of secondary deposits in the femur from a so-called hypernephroma.[1] The patient, a woman, aged seventy-two years, was admitted to hospital in February, 1923, suffering from a spontaneous fracture of the right femur. Her right kidney had been removed nearly ten years previously on account of a tumour which was diagnosed as a hypernephroma. Dr. Broster points out that the interval between the original operation and the appearance of the secondary deposit is considerable. The longest interval reported in the literature is ten years. Microscopical examination of the tumour in the femur after disarticulation at the hip joint revealed a structure typical of so-called hypernephroma. It also afforded an excellent example of the mimicry which these secondary tumours exhibit for the parent tumour. The macroscopical appearances of the tumour were interesting in that the spread of the growth could be seen extending down the medulla in the upper half of the bone. Dr. Broster claims that this appearance supports the views put forward by Piney that secondary malignant tumours in bone are blood-borne and begin in the marrow of the proximal long bones. The red marrow in these bones is confined to a small area at the upper end of the diaphysis. Microscopically the tumour was found to have a structure typical of the so-called hypernephromata. Some of the malignant cells were seen in the lumen of blood vessels. A careful search in the periosteum for the presence of tumour cells was without result. It will be remembered that one of the findings of Piney on which he based his conclusions, was the fact that malignant cells were often found in the marrow in the same channels as erythrocytes.

[1] *The British Journal of Surgery*, October, 1923.

Abstracts from Current Medical Literature.

PÆDIATRICS.

Immunity to Measles.

C. Herrmann (*New York State Journal of Medicine, October* 1923) discusses the question of the relative immunity of infants under five months of age to infection with measles. He gives a summary of a number of cases observed since 1914. The table shows that infants, whether artificially or breast fed, under two months old, whose mothers have had measles, are immune. The immunity becomes less definite as they grow older. But even to four or five months of age only 25% are infected. From that time the relative immunity rapidly diminishes, so that infants over nine months are as susceptible as older children. That the immunity is not a natural one is indicated by the fact that only infants whose mothers have had measles are immune. If the immunity is derived from the mother, there are two possible sources, through the placental circulation or through the breast milk. If the immunity is transmitted through the placental circulation, it may either be an active immunity due to the passage of antigen from the mother to the fœtus or a passive immunity due to the passage of antibodies from mother to child. The greater part of the experimental evidence goes to show that the normal intact placenta does not allow the passage of antigen. The author refers to the Faroe Islands epidemic in 1846, during which a number of pregnant women contracted measles. In an epidemic thirty-six years later the surviving offspring of those pregnancies contracted measles, showing that they had not been actively immunized. The passage of antibodies through the placental circulation has been demonstrated in the case of diphtheria. A passive immunity acquired through the ingestion of breast milk is doubtful. If immune bodies are present in any appreciable amount in the breast milk of mothers who have had measles, it is difficult to understand why the immunity should be present in artificially fed infants and why it should last only for five months in those infants who are suckled for a much longer period. The author, therefore, concludes that the immune substances are probably chiefly conveyed to the fœtus through the placental circulation and that there is no substantial evidence that any important part of the immunity is due to the ingestion of breast milk.

Blood Diseases in Children.

Gordon Ward (*The British Journal of Children's Diseases*, April-June, 1923) is disappointed at the want of boldness on the part of Poynton, Thursfield and Paterson in their endeavour to devise a classification of blood diseases affecting children. He has arrived at the conclusion that it is useless to set up a classification based on ætiological factors, since several unconnected diseases would thus appear side by side. He, therefore, has adopted an anatomical and pathological basis for his comprehensive classification of the blood diseases of childhood. The first large group comprises the generalized affections of the blood forming tissues. These are subdivided into the leuchæmias which are again grouped into acute and chronic. Among the former are lymphæmia, myelæmia and chloroma; among the latter are infective lymphocytosis, the myelæmias of cancer, sepsis and so forth and von Jaksch's disease. The next class of generalized affections contains only one example, Hodgkin's disease. The third comprises the splenomegalies of the Gaucher type, including true Gaucher's splenomegaly, the splenomegaly of Borrisowa and telangiectatic splenomegaly. The fourth class of the generalized affections are the infective splenomegalies. These may be parasitic or septic. The former include kala-azar, malaria, histoplasmosis, toxoplasmosis and Krempf's splenomegaly. The septic sub-group includes syphilis, tuberculosis and the non-specific infections. The second large group is that of the localized affections of the blood forming tissues. The primary affection of the lymphoid tissues is given as simple lymphoma and the secondary as lymphatism. The third group comprises the affections of the red corpuscle formation and destruction. Under increased formation, he gives as a primary lesion erythæmia and as secondary lesions secondary polycythæmia, blood crisis and post-hæmorrhagic anæmia. Under the heading of decreased formation there are acute aplastic anæmia and congenital anæmia as the primary, and oligosideræmia, simple anæmia, X-ray and radium anæmias and senile anæmia as the secondary divisions. Under increased destruction he lists as primary congenital hæmolytic jaundice, Dresbach's syndrome, Herrick's syndrome, Malin's syndrome, Clough and Richter's syndrome and Addisonian anæmia. The secondary affections in this class are acquired hæmolytic jaundice, intra-vascular cytophagocytosis, the hæmolytic anæmia of the Addisonian type, such as bothriocephaliasis. Lastly in this group there are the disordered destructions, namely hæmochromatosis and hæmatoporphyrinuria. The fourth group include the affections of the circulating red blood corpuscles. The subdivisions are the infective and the toxic. Among the former are hæmoglobinuria, sulphhæmoglobinuria, infective methæmoglobinuria. Among the latter are carbon monoxide poisoning, nitro-benzol poisoning and cyanogen poisoning. The fifth group embraces the affections of the leucocyte formation and destruction. Under increased formation only secondary lesions are gvien, to wit polymorpho-nuclear leucocytosis, eosinophile leucocytosis, mixed leucocytosis and lymphocytosis. Under decreased formation there is the condition in aplastic anæmia as a primary condition and leucopenia as a secondary condition. Malin's syndrome is classed both as an increased destruction and a disordered destruction. While he gives the sixth place to the group of affections of the circulating leucocytes, he has no example to include. The seventh group comprises the affections of the platelets, namely *purpura hæmorrhagica*, chronic purpura and other purpuras. The last group is headed the affections of the plasma. As a sub-group, there are the hæmophilias, including the primary, familial hæmophilia, and the secondary *hæmophilia neonatorum* and *hæmophilia calcipriva*. The second sub-group is reserved for chlorosis.

Intestinal Intoxication in Infants.

A. Brown and G. Boyd (*Canadian Medical Association Journal*, November, 1923) discuss acute intestinal intoxication in infants. Amongst the predisposing causes they note the close relationship between the temperature of the air and the morbidity of this disease. The primary cause may be the production of some toxic substances from the food by decomposition, improper foods, infection of the intestinal walls with bacteria or abnormal absorption of catabolites from the bowel. Numerous bacteriological researches have failed to reveal a pathognomonic organism. From their experimental work the authors conclude that the cause of acute intestinal intoxication is a circulating toxin, produced in the mucous membrane of the bowel. Chemically the substance resembles closely an amine base and possibly is the normal toxic substance found by Starling in the bowel mucous membrane. Numerous organisms may play a secondary rôle in producing the poison. There are no characteristic pathological lesions. The commonest and frequently the only abnormality seen is a fatty liver. With regard to treatment, prophylaxis affords the most hopeful means of combating this disease. The need for breast feeding is indicated by the greater prevalence of the disease among the artificially fed. Overfeeding should be avoided. Any diarrhœa should be promptly treated. Abundance of fresh air, light clothing and cleanliness should be insisted on. The dehydration was treated by giving fluids by mouth, subcutaneously, intra-peritoneally or intravenously. The toxæmia was dealt with by the administration of exsanguination transfusion. The authors conclude from their experience that this offers the most successful means of combating the toxin. It should be tried no matter how hopeless the condition may appear. An initial period of starvation was instituted in all instances. Following this dilutions of protein milk, or lactic acid milk were given. The protein milk was made from powdered protein milk, but in certain protracted cases the substitution of liquid protein hastened the cure.

ORTHOPÆDIC SURGERY.

The Correction of Drop-Foot.

W. C. CAMPBELL (*Journal of Bone and Joint Surgery*, October, 1923) has devised an operation for the correction of drop-foot. In the first section of the operation an attempt is made to produce arthrodesis between the talus and the cuneiform bones, between the talus and the *os calcis* and between the *os calcis* and the cuboid. The scaphoid is removed and together with any other particles of bone are preserved for the second stage of the operation. This is accomplished by making a Z-shaped tenotomy of the *tendo Achillis* and by clearing the periosteum from the posterior surface of the tibia and from the superior surface of the *os calcis*. The foot is dorsiflexed and the posterior extremity of the talus is removed. The scaphoid is inserted into a wedge-shaped cavity in the superior surface of the *os calcis* and the loose particles of spongy bone placed in a pyramidal mass extending well over the posterior surface of the tibia. The foot is then retained at right angles in a plaster cast. The whole idea of the operation is to build up a mass between the *os calcis* and the posterior part of the tibia so as to stop the foot dropping during progression. Not infrequently drop-foot exists when the anterior group of muscles is only partially paralysed. In such conditions as an adjunct to the technique described above the author makes use of the tendons of the peroneus muscles and of dorsi-flexors of the foot to add additional stability to the operation.

Nerve Anastomosis.

CHARLES BALLANCE (*The British Journal of Surgery*, October, 1923) gives the results of experiments performed by him in lateral inplantation of the two ends of the divided nerve in the neighbouring uninjured nerve. The subject of his experiments were monkeys. Two and a half-months after the experiments had been performed the monkeys were said to have almost complete recovery of motor power in the operated limb. He adopted the method of double inplantation in several patients during the Great War, but these patients were lost sight of, though in most instances other surgeons appeared to have considered the result a failure. The author also deals with the evolution of an operation for the cure of facial palsy and gives the results of a number of experiments on monkeys.

The Periosteal Blood Supply and the Healing of Fractures.

ANATOLE KOLODNY (*Journal of Bone and Joint Surgery*, October, 1923) conducted a number of experiments to ascertain the important factors in the healing of fractures. In the first series fractures were produced in the radius of a dog without denuding the bone of its periosteum, but the periosteum was separated from the soft tissue over an area of six centimetres. In the second series the fracture was produced through the entrance of the nutrient artery. In this series the nutrient artery had to be divided. In both series of experiments the obstruction of the periosteal blood supply leads to non-union of the fracture. In the normal healing of all complete fractures the callus formed by the periosteum is the more important factor in producing adequate union. Non-union is a frequent clinical occurrence when fractures are associated with crushing of the soft tissues so as to separate them from the periosteum and thus deprive the periosteum of its blood supply. Rupture of the main vessels by the bony fragments leads to disturbance of the periosteal circulation which is sufficient to check for a time the callus formation and so result in non-union. The intraosteal vessels can only recover after the periosteal vessels have recovered and the callus formation from the bone itself is of minor importance. Another factor noticed by the author during the experiments was that healing of the fracture is always accompanied by an exuberant formation of periosteal and intraosteal blood vessels.

Lesions of the Transverse Processes and Pain in the Back and Legs.

G. I. BAUMAN (*Journal of Bone and Joint Surgery*, July, 1923) has had under his observation twenty patients who presented a combination of history, physical findings and X-ray evidence indicating some lesion of one or more of the lumbar transverse processes. Fifteen of these gave a definite history of sudden injury, in most cases indirect in type. Two complained of pain in the back only. Thirteen complained of pain in both back and groin, hip, thigh or leg. The most constant pain during movement was in flexion. Atrophy of muscles was noticed in four instances. In nineteen the author found sufficient justification for operative interference in which one or more transverse processes were resected. The method of approach was through a longitudinal incision ten to fifteen centimetres long over the offending processes. In the case of the fifth lumbar transverse process a section of the crest of the ilium had sometimes to be removed to expose the process. Active movement is prevented for a period of seven or eight days after operation and the total period of recumbency varied from nine days to three weeks.

Arthrodesing Operations on the Feet.

EDWIN W. RYERSON (*Journal of Bone and Joint Surgery*, July, 1923) states that careful analysis of treatment of deformities and disabilities of the feet has led to the conclusion that the chief cause of failure in many brilliant operations has been the development of lateral deformity in the feet. Calcaneus deformity can be relieved by astragalectomy. Drop foot can be relieved by tendon fixation. But lateral deformity cannot be adequately relieved by either method. An individual with an artificial leg and foot generally walks better than most patients suffering from infantile paralysis because the ankle joint and foot of an artificial leg are capable of movement in flexion and extension. The author's proposal is to treat instability of the foot by stabilizing the tarsus and metatarsus, but he does not interfere with the ankle joint. Details of operation are given and the results are said to be extremely satisfactory.

Internal Splinting of the Spine.

P. B. MAGNUSON (*Surgery, Gynecology and Obstetrics*, January, 1924) introduces a method for internal splinting of the spine by which a heavy bone graft from the crest of the tibia is fixed to the spinous processes by means of ivory screws. The author contends that this gives an immediate immobilization, immediate relief from pain and does away with the necessity of uncomfortable body casts. It also allows the patient to move freely in bed and assume an upright position within three weeks of the time of operation. If it is not possible to use ivory screws, braided silk is preferable to kangaroo tendon for fixing the graft because of its lasting support and non-irritating quality. This type of fixation should be done whenever chronic disabling pain and increasing deformity exists as a result of tuberculosis of the spine, fracture of the spine, spondylo-listhesis of chronic strain.

Obstetric Brachial Paralysis.

S. W. BOORSTEIN (*Journal of Bone and Joint Survery*, October, 1923) reviews the ætiology, symptoms and treatment of obstetric brachial paralysis and makes a report of treatment of fifty patients. When properly treated patients suffering from mild forms of paralysis may be expected to recover within three or four months. The author contends that nerve operations are indicated if no improvement results after four months' treatment. The immediate treatment is the application of a splint to prevent the occurrence of deformities and this should be worn for about eight or nine months. In the author's opinion Taylor's operation is the most suitable when the nerve is divided and Sever's operation affords the best correction for the shoulder deformities.

The Types of Tubercle Bacilli Concerned in Surgical Tuberculosis.

G. R. GIBDLESTONE (*The Journal of Bone and Joint Surgery*, April, 1923) has interested himself in surgical tuberculosis. The proportion of cases for which the bovine bacillus is responsible, varies to some extent with regard to the site of the lesion. For example they are much more frequently found in glands than in bones or joints. Another characteristic is that they affect patients more in the first five years of life. In no instance have the bovine or "atypical" forms been shown to change in cultural or virulence reactions towards the human type.

British Medical Association News.

SCIENTIFIC.

A MEETING OF THE NEW SOUTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the B.M.A. Building, 30 to 34, Elizabeth Street, Sydney, on December 14, 1923, DR. C. H. E. LAWES, the PRESIDENT, in the chair.

The Conveyance of Gonorrhœa to the Female During Pregnancy.

DR. P. FIASCHI, O.B.E., read a report of three cases of gonorrhœa in the male to illustrate an unsual occurrence in the epidemiology of the disease (see page 225).

DR. N. M. GIBSON, O.B.E., said that he was unable to call to mind an occurrence similar to those related by Dr. Fiaschi. He had investigated the case of one woman who had escaped infection, although exposed during the incubation period. Bacteriological tests had been carried out, but no trace of infection had been discovered. This woman, however, had not been pregnant at the time. In regard to Dr. Fiaschi's one patient, he suggested that as the history indicated that the coitus had taken place during the twenty-four hours following the exposure of the male to infection, the number of gonococci might have been so small that the risk to his wife at that stage had been negligible. During the period of incubation after exposure to infection it was usually very difficult to grow gonococci. The majority of the organisms were entrenched in the epithelium and very few could be found on the surface. Moreover, he held the opinion that a large number of gonococci were necessary to produce an infection. On the other hand, he admitted that pregnant women were usually very susceptible.

DR. H. G. LEAHY after thanking Dr. Fiaschi for his extremely interesting paper suggested that the great outpouring of secretion by the female during connexion combined with unsuitability of the vaginal lining as a culture medium for gonococci might well account for the apparent immunity of pregnancy against gonorrhœa, particularly as so few gonococci were present in the male during the incubation period.

DR. RALPH WORRALL thought that Dr. Fiaschi's observations were worth recording. He agreed with Dr. Gibson that as the intercourse had taken place before the gonococci had established themselves, that was during the incubation period, the risk of infection would be diminished. He maintained that susceptibility to infection in women varied considerably. The same applied to males. One might be taken and the other left. He held it to be of grave importance when infection and fertilization occurred simultaneously. He referred to the histories of two women in whom this had occurred. In both early pregnancy had been associated with acute bilateral salpingitis and pelvic peritonitis. In one the damage had been so great that it had been necessary to perform hysterectomy. It was taught in the text-books that the vagina was never the seat of a gonorrhœal infection. It was very difficult to believe that. It was not uncommon for all the usual sites of infection to be clear in relapsing gonorrhœal vaginitis. He held that strains of gonococci varied in virulence. He was convinced that many women did not get well, unless the vaginal infection was treated as well as the urethral, cervical, tubal and Bartolini's gland sites.

DR. R. B. MONSON suggested that the usual method of examining for evidence of gonorrhœa in the male by smear was not reliable in the female. At times no evidence could be obtained until the infection was well established. Lee had insisted on a provocative injection of gonococcal vaccine both for diagnosis and for ascertaining whether an infection had been cured.

DR. J. ADAM DICK, C.M.G., held that the importance of gonorrhœal infections in women during pregnancy should be recognized. He had listened to Dr. Fiaschi's paper with pleasure. It was very instructive.

DR. C. SHEARMAN suggested that escape from infection in Dr. Fiaschi's patients might be associated with the immunity responses. It was usually held that there was no immunity to gonorrhœa. Recent work on the complement fixation in gonorrhœa had demonstrated that there was a distinct immunity response. It had been found that when the anterior portion of the urethra was infected the fixation test did not lead to a reaction. On the other hand, when the infection had become more generalized and had spread to the posterior portion of the urethra the serum contained antibody which reacted with the antigen to fix complement. Similarly in women when the infection was restricted to the cervical mucosa these immune substances were usually absent, while when the adnexa were involved, they could be demonstrated. Dr. Shearman was inclined to the opinion that in Dr. Fiaschi's patients there had been a combination of circumstances which had prevented infection from taking place. In the first place there was the quantity of the infecting material. Secondly there was the virulence of the organisms. Thirdly they had to take into consideration the nature of the pabulum on which the infection had fallen. There was reason to believe that the quantity was small in the early stage of the incubation period. Dr. Shearman was inclined to think that the virulence may have been low at this stage. The defensive forces of the man had been engaged in combating the infection and the gonococci had not at that time gained the mastery. In the woman the pabulum might have been to some extent unfavourable in the circumstances described. Added to this there was, as Dr. Fiaschi had suggested, the beneficent intervention of Providence.

In his reply DR. FIASCHI thanked the members for the way they had received his communication.

In regard to what Dr. Gibson and Dr. Worrall had said, that these persons had had coitus with their wives in the early stage of infection and that probably only very few gonococci might be present, he recalled the fact that many women were infected by the very scanty drop or secretion of old-standing gonorrhœa in which very often the few gonococci were represented by many degenerative forms. Dr. Fiaschi did not think that anyone with experience of gonorrhœa in the male would care to wager that persons with early infection would not infect women; unfortunately they all knew that too often women were infected by men who stated that they were unaware that they were infected as they had seen nothing up to the time of coitus.

Another fact had to be borne in mind. It was that too much importance should not be attached to statements of patients as to the time of the onset of the discharge, as for many reasons they were only too ready to procrastinate until fully convinced that there was something radically wrong. This was particularly the case in the neophytes of gonorrhœal infection.

In regard to infection of the vagina, it was undoubtedly rare and some authorities denied that it occurred. Jullien was responsible for quoting a number of interesting experiments carried out with regard to infection of the vagina of women.

Referring to Dr. Worrall's statement regarding his case of recurrent gonorrhœal vaginitis after hysterectomy, he would like to ask if the hysterectomy had been total or sub-total. If sub-total, the recurring infection might be traced to the cervical stump.

Concerning immunity to gonorrhœal infection, the statements of Norris quoted in the paper fully answered this question. In reply to Dr. Munson's question of determining a cure in women by the injection of doses of gonococcic vaccines, Dr. Fiaschi said he had no experience with it and relied on the provocative tests with applications of solutions of silver nitrate to the urethra and cervical canal and injection of the same into the duct of the Bartholinian glands by means of Janet's curved needles for this purpose. He examined the secretions from these situations after forty-eight hours.

DR. V. M. COPPLESON read a paper entitled "The Surgical Importance of the Blood Vessels of the Abdomen." This paper will be published in a subsequent issue. A short discussion ensued.

MEDICO-POLITICAL.

A MEETING OF THE VICTORIAN BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held in the Lecture Room of the Walter and Eliza Hall Institute on February 6, 1924, DR. J. W. DUNBAR HOOPER, the PRESIDENT, in the chair.

Financial Statements.

DR. C. H. MOLLISON, the Honorary Treasurer, presented the balance sheets of the Victorian Branch of the British Medical Association and the Medical Society of Victoria (see page 248). Members were provided with copies of the balance sheets which were adopted on the motion of DR. ALLEN ROBERTSON, seconded by DR. L. S. LATHAM.

THE PRESIDENT paid a tribute to Dr. Mollison's continued unremitting care of the finances of the Branch. The Honorary Treasurer had discharged his onerous duties for many years and the present satisfactory position was due in large measure to his meticulous attention.

New British Medical Association Buildings.

DR. R. H. FETHERSTON, convenor of the building sub-committee of the Council, said that he had been requested by the Council to inform the meeting of recent deliberations of the Council concerning the question of a new building for the Victorian Branch.

It would be remembered that at a meeting of the Branch held on July 4, 1923, a resolution was adopted approving a scheme for the formation of a company to acquire a site for the erection of a new British Medical Association building. The plan then projected was that a large building which would provide the Branch with hall, library and offices and would at the same time be productive of revenue, should be erected in a central part of the city.

The building sub-committee had ascertained that a sum estimated as between £20,000 and £30,000 would be necessary to proceed on these lines and after careful inquiry and consideration had reached the conclusion that the undertaking was too large. In this view the Council concurred and recently had given consideration to the alternative scheme of re-building on the site of the present Medical Society Hall.

Expert advice had been taken and it was estimated that for an outlay of approximately £8,000 a building in reinforced concrete which would seem to meet all requirements, could be erected on the present site. There would be a hall of fifty-six by twenty-seven feet four inches floor space, twice as large as the present hall and capable of accommodating three hundred to three hundred and fifty members; the library would be double the size of the existing library and roomy offices would be provided. In addition to caretaker's quarters, it was anticipated that there would be an extra room which would serve as a writing room and in which members could consult and make annotations from journals.

It was necessary to take some action and he favoured the scheme he had outlined of rebuilding on the present site.

MR. G. A. SYME pointed out that if the proposal to acquire a new site were to be abandoned, it would be necessary to rescind the resolution of July 4, 1924.

DR. J. NEWMAN MORRIS agreed with Mr. Syme, but said that it was perhaps not necessary to expunge the resolution at that juncture. He understood that Dr. Fetherston's statement was purely informative and if the alternative scheme he had suggested appealed to the members of the Branch, the existing resolution might be rescinded later.

National Insurance.

DR. J. NEWMAN MORRIS read a paper entitled "National Insurance in Australia as Affecting the Medical Profession" (see page 227).

At the conclusion of Dr. Morris's paper, DR. LISTER, a recent arrival from England, contributed some remarks relating to experiences in panel practice in Great Britain.

DR. J. H. L. CUMPSTON said that Dr. Morris had succeeded in giving them an admirable presentation of a very complex subject in the short time at his disposal.

His own interest in the question of national insurance was chiefly concerned with its value as a means of advancing preventive medicine. When national insurance was first mooted in Great Britain its advocates had claimed that it would not only ameliorate the lot of the sick person in the community, but would be a valuable instrument in the prevention of disease and in the reduction of the total mortality and morbidity. He was not satisfied that the introduction of national insurance had effected improvements in the treatment of disease and it was apparent that the hopes it had raised in the sphere of prevention, had not been realized.

He urged strongly that the prevention of disease should be kept in the forefront of any scheme of national insurance which might be introduced into Australia. He believed that a system could be devised which would have material results in reducing the incidence of disease in the community, but the essential for success was close co-operation between the medical profession as a whole and the central health administration. The individual members of the medical profession were the principal agents in promoting the principles of preventive medicine and no considerable advance could be achieved by the central authority without their enthusiastic support.

DR. R. R. WETTENHALL said that it would be interesting to ascertain what had been the effect of the introduction of national insurance upon the number of patients attending public hospitals. While on a recent visit to London he had commented upon what appeared to him to be the relatively small size of the out-patient clinics at one of the large hospitals and had been informed that the reduction was attributed to national insurance.

DR. E. B. HEFFERNAN asked by whom the case records and clinical histories which the act required to be kept, were inspected.

DR. NEWMAN MORRIS said that the records referred to by Dr. Heffernan had given rise to a great deal of discussion. Various systems of records had been tried and abandoned and apart from the clerical work which they occasioned, objection to them had been made on the ground of violation of professional secrecy. He understood that the practitioners' case records were not closely inspected, but the act required them to be kept and to be made available on demand to the medical referee.

In reply to a question Dr. Morris said that the treatment of venereal disease was not excluded from the panel doctor's contract. He was also required to treat alcoholism, but in that case the patient did not receive his sickness benefit.

NOMINATIONS AND ELECTIONS.

THE undermentioned have been nominated for election as members of the New South Wales Branch of the British Medical Association:

BRADDON, PAUL DUDLEY, M.B., Ch.M., 1923 (Univ. Sydney), Royal Prince Alfred Hospital, Camperdown.

CHALMERS, ALEXANDER WILLIAM, M.B., 1922 (Univ. Sydney), Goondiwindi, Queensland.

DUN, CHARLES WILLIAM SUTHERLAND, M.B., Ch.M., 1923 (Univ. Sydney), Roseville.

HOWELL, KENNETH JAMES, M.B., Ch.M., 1922 (Univ. Sydney), Royal Hospital for Women, Paddington.

LEWIS, BLAKE HAMMOND, M.B., Ch.M., 1923 (Univ. Sydney), Royal North Shore Hospital of Sydney, St. Leonards.

McCREDIE, HAROLD ANDREW, The Point Road, Woolwich.

THE undermentioned have been nominated as members of the New South Wales Branch of the British Medical Association:

HONNER, RICHARD ST. JOHN, M.B., Ch.M., 1922 (Univ. Sydney), Royal Alexandra Hospital for Children, Camperdown.

WEST, HENRY JESSE, M.B. ,Ch.M., 1922 (Univ. Sydney), Sailor Bay Road, Northbridge.

VICTORIAN BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

Revenue and Expenditure Account for Period from January 11, 1923, to January 23, 1924.

EXPENDITURE.	£ s. d.	REVENUE.	£ s. d.	£ s. d.
To Medical Society of Victoria	1,737 3 6	By Balance, January 11, 1923		622 10 8
„ British Medical Journal	1,297 13 9	„ Subscriptions—		
„ Federal Committee	101 0 0	Metropolitan Members	2,282 17 0	
„ Postages, Duty Stamps, etc.	64 3 0	Country Members	1,234 11 6	
„ Printing	56 10 9	Junior Members	339 3 0	
„ Stationery	28 1 5	Capitation, London	1 7 0	
„ Commission (New Members)	9 15 0			3,857 18 6
„ Advertising	11 8 0	„ Bank Discount		7 8 7
„ Audit, 1922	2 2 0	„ Congress Ball		7 17 3
„ Rebates, Divisions	64 5 9	„ War Memorial		22 19 11
„ Assistant Secretary	90 19 8			
„ Telephone	6 3 3			
„ Architects' Fees	7 7 0			
„ Gratuity, Melbourne Hospital	10 10 0			
„ Legal Opinion	6 6 0			
„ Bonus, Assistants, Melbourne Hospital	2 12 6			
„ Illuminated Address	1 0 0			
„ Sundries	9 17 10			
„ Clerical Assistance	6 1 6			
„ Repairs	0 15 0			
„ Electric Light	7 18 6			
„ Refund to Medical Agency	114 2 2			
„ Balance	882 18 4			
	£4,518 14 11			£4,518 14 11

Balance Sheet as at January 23, 1924.

LIABILITIES.	£ s. d.	ASSETS.	£ s. d.
Balance, as above	882 18 4	Bank of Victoria	885 0 6
Refund to Medical Agency	114 2 2	Trustees, Organization Fund	100 0 0
		Cash in Hand	12 0 0
	£997 0 6		£997 0 6

Audited and found correct,
J. V. M. WOOD & CO., PTY., LTD.,
Incorporated Accountants.
Melbourne, February 5, 1924.

C. STANTON CROUCH,
Secretary.
C. H. MOLLISON,
Hon. Treasurer.

MEDICAL SOCIETY OF VICTORIA.

Revenue and Expenditure Account for Period from January 11, 1923, to January 23, 1924.

EXPENDITURE.	£ s. d.	£ s. d.	REVENUE.	£ s. d.
To MEDICAL JOURNAL OF AUSTRALIA		960 0 0	By Balance, January 11, 1923	169 16 5
„ Salaries—			„ Subscriptions, 1923	1,737 3 6
Secretary	446 6 8			
Assistant Secretary (part salary)	12 11 8			
Library Clerk	61 6 8			
Caretaker	57 6 8			
		577 11 8		
„ Library, Journals and Binding		30 4 9		
„ Audit, 1922		3 3 0		
„ Bank Charges		2 0 0		
„ Furniture		9 7 6		
„ Lighting and Power		7 18 5		
„ Postages, etc.		66 18 1		
„ Rates and Taxes		22 7 4		
„ Repairs, etc.		7 6 3		
„ Telephone		6 3 2		
„ Balance, Bank of Victoria, Ltd.		213 19 9		
		£1,906 19 11		£1,906 19 11

Audited and found correct,
J. V. M. WOOD & CO., LTD.,
Incorporated Accountants.
Melbourne, February 5, 1924.

C. STANTON CROUCH,
Secretary.
C. H. MOLLISON,
Hon. Treasurer.

Research.

THE SIR JOHN GRICE CANCER RESEARCH SCHOLARSHIP AND THE CLINICAL RESEARCH SCHOLARSHIP.

RECENTLY at the Walter and Eliza Hall Institute, the donors of the Sir John Grice Cancer Research Scholarship and the Clinical Research Scholarship and the members of the committees controlling them had the opportunity of seeing the work of the present scholars.

On December 19, 1923, at 4 p.m. the Director of the Institute entertained these visitors at tea. Dr. B. Warner, the Clinical Research Scholar, then gave a demonstration of the methods of typing pneumococci which she has been using. She also gave a short account of her researches during the past year.

Dr. Wanliss, the Cancer Research Scholar, then showed some of the more interesting of the macroscopical and microscopical preparations with which she has been concerned in her study of uterine malignancy.

A general tour of the Institute concluded the proceedings.

Those present included Sir Harry Allen, Sir James Barrett, Dr. J. W. Dunbar Hooper, Mr. G. A. Syme, Dr. R. R. Stawell, Dr. C. H. Mollison, Dr. B. T. Zwar, Dr. Lilian Alexander, Dr. Alan Mackay and Dr. M. D. Silberberg.

Obituary.

CHARLES COLEMAN JEWELL.

IT is with regret that we have to announce the death of Dr. Charles Coleman Jewell, which occurred at Summer Hill, Sydney, on February 19, 1924.

ARTHUR FRANCIS BELL.

IT is with regret that we record the death of Dr. Arthur Francis Bell which occurred with startling suddenness on January 24, 1924.

Arthur Francis Bell was the fourth son of Mr. G. Bell, barrister-at-law, and was born in Kew, Victoria, thirty-eight years ago.

He was educated at the Melbourne Church of England Grammar School and entered on his medical course at the Melbourne University in 1903. Shortly after graduation in 1909 he became resident surgeon to the Launceston Hospital and held this appointment until his departure for England in 1911. In London he worked for nearly two years in Sir Almroth Wright's laboratory, directing his studies particularly towards the methods of preparation and use of vaccines. He obtained the Diploma of Public Health at the University of London in 1913 and subsequently returned to Australia, where he established himself in practice in Collins Street, Melbourne.

Early in 1915 Frank Bell engaged to serve with the Royal Army Medical Corps for a period of twelve months and found his sphere of service in the Great War in Egypt where he was placed in charge of the Bacteriological Department of the Nineteenth General Hospital. It was while in Egypt that he contracted illness which so impaired his health that his colleagues urged him not to enlist for a further term, but to return to Australia at the expiration of the twelve months for which he had engaged. He therefore resumed civil work in 1916, but under the disability of damaged health. His illness made gradual and insidious headway and in January of this year he sought operative relief.

Frank Bell was married in 1915 to Dr. Mary Henderson, formerly Lecturer in Architecture to the University of Melbourne. His widow, their three sons and a daughter, survive him.

Frank Bell's quiet courtesy and unfailing sympathy endeared him to his patients both in private and hospital practice. His prolonged enfeebling illness was borne with an admirable fortitude. He was an able violinist and an experienced player in orchestra; latterly he occupied his leisure with chamber music. His many friends will long remember his unostentatious devotion to duty and will mourn his untimely death.

Correspondence.

A WARNING.

SIR: With reference to the advertisements appearing in the daily newspapers of Australia for a health or medical officer for the Elliston District Council, Elliston, South Australia, I would like to state that I have been practising in this township for the past ten and a half years under a contract agreement with the Elliston District Council. This agreement I have now terminated with a three months' notice and at the expiration of this time I intended to conduct the practice as a private one. I write this in order that intending applicants may understand the situation before applying.

Yours, etc.,

E. C. DAVEY.

Elliston, South Australia,
January 18, 1924.

DEATHS UNDER ANÆSTHESIA.

SIR: Dr. Cuthbert Hall is to be congratulated on his recent article "Some Recent Deaths Under Anæsthesia." The importance of such cases is very great as so few of the fatalities are published at all, rather are they hidden. Of the cases reported one was a case of asphyxia from inspired blood. The other four anæsthetics were induction by chloroform.

The conclusion arrived at by Dr. Cuthbert Hall after reviewing these cases is: "We should strive for an even administration of the drug (chloroform), non-interference with respiration, a full anæsthesia and the avoidance of sensory stimuli."

But I think that the real moral to be derived from a contemplation of these cases is quite different. It is one that should be posted in every operating theatre and inscribed on every anæsthetic bag: "Avoid chloroform."

The conclusions of the Committee on Anæsthesia of the American Medical Association on June 15, 1912, were: (i.) The use of chloroform as the anæsthetic for major operations is no longer justifiable; (ii.) for minor operations also the use of choroform should cease; (iii.) chloroform is sometimes found convenient for initiating anæsthesia in alcoholics or other difficult subjects. . . . It is justifiable only when nitrous oxide is not available. . . . . As soon as full anæsthesia is attained, ether should be substituted.

In teaching students I always emphasize the fact that the mortality from chloroform is at least seven times as great as that from ether anæsthesia. I also tell them that in my opinion there are only two occasions when chloroform should be used: (i.) When using the actual cautery near the mouth, (ii.) in people suffering from acute lung disease when nitrous oxide and oxygen is unobtainable or inapplicable.

Yours, etc.,

GILBERT BROWN.

Verco Building, Adelaide,
February 23, 1924.

TRANSACTIONS OF CONGRESS.

THIS issue of THE MEDICAL JOURNAL OF AUSTRALIA does not include a supplement. The publication of the Transactions of Congress will be continued in the issue of March 15, 1924.

APR 28 1924 Medical Library

Proceedings of the Australian Medical Boards.

NEW SOUTH WALES.

THE undermentioned have been registered, under the provisions of the *Medical Act, 1912 and 1915*, as duly qualified medical practitioners:

COUTTS, MILTON LEONARD, M.B., Bac. Surg., 1917 (Univ. Melbourne).

DE LACY, OLAF FRANCOIS, M.B., Bac. Surg, 1915 (Univ. Melbourne).

PHILP, DORIS MARGARET, M.B., Ch.M., 1922 (Univ. Sydney).

For Additional Registration.

WHITE, GAVIN BRUCE, M.R.C.P. (Lond.), 1923.

TRENERRY, EDWIN, Ch.M., 1923 (Univ. Sydney).

Books Received.

A CLINICAL GUIDE TO BEDSIDE EXAMINATION, by Dr. H. Elias, Dr. N. Jagic and Dr. A. Luger (Vienna); Arranged and Translated by Wm. A. Brams, M.D.; 1923. New York: Rebman Company; Sydney: Angus and Robertson, Limited; Crown 8vo., pp. 143. Price: 7s. 6d. net.

AIDS TO PHYSIOLOGY, by John Tait, M.D., D.Sc. and R. A. Krause, M.D., D.Sc; Second Edition; 1924. London: Baillière, Tindall and Cox; Foolscap 8vo., pp. 263, with 57 figures in the text. Price: 3s. 6d. net.

AIDS TO PRACTICAL PATHOLOGY, by F. W. W. Griffin, M.A., M.D., B.C. (Cantab.), M.R.C.S. (Eng.), L.R.C.P. (London), and W. F. M. Thompson; 1923 London: Baillière, Tindall and Cox; Foolscap 8vo., pp. 256, with three figures in the text. Price: 4s. net.

ENCYCLOPÆDIA MEDICA, under the General Editorship of the late J. W. Ballantyne, M.D., C.M., F.R.C.P.E. (Volumes I.-VIII.) and Alexander Goodall, M.D., F.R.C.P.E. (Volumes IX.-X.); Second Edition: Volume X., "Obligate" to "Potash"; 1923. Edinburgh: W. Green and Son, Limited; Sydney: Butterworth and Company (Australia), Limited; Royal 8vo., pp. 672.

GERIATRICS: A TREATISE ON THE PREVENTION AND TREATMENT OF DISEASES OF OLD AGE AND THE CARE OF THE AGED, by Malford W. Thewlis, M.D., with Introductions by A. Jacobi, M.D., LL.D. and I. L. Nascher, M.D.: Second Edition, Revised and Enlarged; 1924. St. Louis: C. V. Mosby Company; Demy 8vo., pp. 401. Price: $4.50.

MANAGEMENT OF THE SICK INFANT, by Langley Porter, B.S., M.D., M.R.C.S. (Eng.), L.R.C.P. (Lond.), and William E. Carter, M.D.; Second Revised Edition, illustrated; 1924. St. Louis: C. V. Mosby Company; Royal 8vo., pp. 659. Price: $8.50.

MAN'S MENTAL EVOLUTION, PAST AND FUTURE, by Harry Campbell, M.D.; 1923. London: Baillière, Tindall and Cox; Crown 8vo., pp. 79. Price: 3s. 6d. net.

MATERIA MEDICA, PHARMACY, PHARMACOLOGY AND THERAPEUTICS, by William Hale-White, K.B.E., M.D. (London), M.D. (Dublin), Honorary Colonel R.A.M.C. (T.); Eighteenth Edition; 1924. London: J. & A. Churchill; Foolscap 8vo., pp. 720. Price: 10s. 6d. net.

PRACTICAL CHEMICAL ANALYSIS OF BLOOD: A BOOK DESIGNED AS A BRIEF OF THIS SUBJECT FOR PHYSICIANS AND LABORATORY WORKERS, by Victor Caryl Myers, M.A., Ph.D.; Second Revised Edition, illustrated; 1924. St. Louis: C. V. Mosby Company; Royal 8vo., pp. 232. Price: $4.50.

PSYCHO-ANALYSTS ANALYSED, by P. McBride, M.D., F.R.C.P.E., F.R.S.E., with Introduction by Sir H. Bryon Donkin, M.D. (Oxon.), F.R.C.P.; 1924. London: William Heinemann (Medical Books), Limited; Crown 8vo., pp. vii. + 142. Price 3s. 6d. net.

SURGICAL EMERGENCIES, by Russell Howard, C.B.E., M.S., F.R.C.S.; 1924. London: Edward Arnold & Co.; Crown 8vo., pp. 216. Price: 7s. 6d. net.

THE CULTURE OF THE ABDOMEN, by F. A. Hornibrook; Preface by Sir William Arbuthnot Lane, Bart., C.B., M.S.; 1924. London: William Heinemann (Medical Books), Limited; Demy 8vo., pp. 67. Price: 6s. net.

THE INSULIN TREATMENT OF DIABETES MELLITUS, by P. J. Cammidge, M.D. (London), D.P.H. (Camb.); 1924. Edinburgh: E. & S. Lingstone; Crown 8vo., pp. viii. + 172. Price: 6s. net.

Medical Appointments: Important Notice.

MEDICAL practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429, Strand, London, W.C.

BRANCH.	APPOINTMENTS.
NEW SOUTH WALES: Honorary Secretary, 30 - 34, Elizabeth Street, Sydney	Australian Natives' Association Ashfield and District Friendly Societies' Dispensary Balmain United Friendly Society's Dispensary Friendly Society Lodges at Casino Leichhardt and Petersham Dispensary Manchester Unity Oddfellows' Medical Institute, Elizabeth Street, Sydney Marrickville United Friendly Societies' Dispensary North Sydney United Friendly Societies People's Prudential Benefit Society Phœnix Mutual Provident Society
VICTORIA: Honorary Secretary, Medical Society Hall, East Melbourne	All Institutes or Medical Dispensaries Australian Prudential Association Proprietary, Limited Mutual National Provident Club National Provident Association
QUEENSLAND: Honorary Secretary, B.M.A. Building, Adelaide Street, Brisbane	Brisbane United Friendly Society Institute Stannary Hills Hospital
SOUTH AUSTRALIA: Honorary Secretary, 12, North Terrace, Adelaide	Contract Practice Appointments at Renmark Contract Practice Appointments in South Australia
WESTERN AUSTRALIA: Honorary Secretary, Saint George's Terrace, Perth	All Contract Practice Appointments in Western Australia
NEW ZEALAND (WELLINGTON DIVISION): Honorary Secretary, Wellington	Friendly Society Lodges, Wellington, New Zealand

Diary for the Month.

MAR. 11.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
MAR. 12.—New South Wales Branch, B.M.A.: Last day for nominations of Candidates to Council.
MAR. 12.—Central Northern Medical Association, New South Wales: Clinical Meeting.
MAR. 12.—Tasmanian Branch, B.M.A.: Branch.
MAR. 13.—Brisbane Hospital for Sick Children: Clinical Meeting.
MAR. 14.—Queensland Branch, B.M.A.: Council.
MAR. 14.—South Australian Branch, B.M.A.: Branch.
MAR. 18.—New South Wales Branch, B.M.A.: Medical Politics Committee; Organization and Science Committee.
MAR. 19.—Victorian Branch, B.M.A.: Council.
MAR. 19.—Western Australian Branch, B.M.A.: Branch.
MAR. 19.—South Sydney Medical Association, New South Wales.
MAR. 28.—Queensland Branch, B.M.A.: Council.

Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

All communications should be addressed to "The Editor," THE MEDICAL JOURNAL OF AUSTRALIA, B.M.A. Building, 30-34, Elizabeth Street, Sydney. (Telephone: B. 4635.)

SUBSCRIPTION RATES.—Medical students and others not receiving THE MEDICAL JOURNAL OF AUSTRALIA in virtue of membership of the Branches of the British Medical Association in the Commonwealth can become subscribers to the journal by applying to the Manager or through the usual agents and book-sellers. Subscriptions can commence at the beginning of any quarter and are renewable on December 31. The rates are £2 for Australia and £2 5s. abroad *per annum* payable in advance.